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ABSTRACT

The "Technology in the Classroom" project developed, field tested, and evaluated the effectiveness of self-instructional materials that would improve the technology skills and knowledge of families and regular/special education professionals, in order to integrate assistive technologies into the educational programs of children (ages 2 to 7) with severe disabilities. Tasks accomplished by the project included: identifying needed instructional content, developing and packaging instructional modules, ascertaining the usefulness of field test procedures and instructional materials, verifying the usefulness of instructional materials through a national field test, and completing and disseminating the instructional materials. Project products included a communication module; education module; positioning, access, and mobility module; listening and hearing supplement; and videotape titled "Assistive Technology: We Can Do It!." This final report discusses project goals and activities. Appendices comprise most of the report and include copies of survey forms, content outlines for the "Technology in the Classroom" modules, a module evaluation form, and materials describing the project. (JDD)

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ED 384 150

TECHNOLOGY IN THE CLASSROOM

Applications and Strategies in the Education of Children with Severe Disabilities

Final Report

September, 1992

H086J90018

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Final Report
September 1992

Title: Technology in the Classroom: Applications and Strategies for the Education of Children with Severe Disabilities

Grant Number: H086U90018

Recipient: American Speech-Language-Hearing Association
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Rockville, MD 20852
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Project Administrator: Stan Dublinske, Ed.D.

Project Director: Nancy T. Harlan, M.A.

Project Manager: Deborah M. Bruskin, B.A.

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1. Background

In recent years it has become increasingly apparent that there is a tremendous need to provide assistive technologies to young children with severe disabilities in all of their learning environments (i.e., home, school, and community). As more and more technology becomes available, the potential for providing these children with rewarding educational experiences continues to expand. However, much of this technology is underutilized, due in part to the fact that professionals as well as families are not comfortable with and have not been trained in its use. They are also not aware of the many ways that assistive technology can be used by these children.

In an effort to address this situation, the "Technology in the Classroom" project was designed to develop, field test, and evaluate the effectiveness of self-instructional materials that would improve the skills and knowledge of families and professionals working with children, ages 2-7, with severe disabilities. To accomplish this goal, the project focused on

- identifying needed instructional content,
- developing and packaging instructional modules,
- ascertaining the usefulness of field test procedures and instructional materials,
- verifying the usefulness of instructional materials through a national field test, and
- completing and disseminating the instructional materials.

2. Project Goals and Objectives

The goals of the project were to

- address the need for training regular and special education professionals as well as families to integrate the use of assistive technologies into the educational programs of children (ages 2-7) with severe disabilities; and
- increase the availability of materials that could be easily disseminated and used by these professionals and families to integrate assistive technologies into the educational programs of these children.

Specific tasks that were conducted during the course of the project included the following:

- Conducting a survey to determine, from experts, front-line professionals, and an External Advisory Group, the most important issues that should be addressed.
- Developing curriculum outlines of critical issues and topics for inclusion in project materials.
- Conducting a nationwide peer review of the curriculum outlines.
- Developing three written modules in the areas of Communication; Education; and Positioning, Access, and Mobility, as well as a Listening and Hearing Supplement.
- Preparing a 15-minute videotape that would provide an overview of the information presented in the written materials.
- Conducting a local field test of the project materials.
- Revising materials based on results of local field test.
- Conducting a national field test of project materials.
- Revising and preparing materials for dissemination.

3. Methodology

In accordance with the goals of the project, curriculum outlines were developed and peer reviewed; and the written materials and the videotape were developed, field tested at the local level, revised, and then subjected to a national field test in four states. In addition, the project staff coordinated the efforts of all participating authors, site coordinators, and the internal and external advisory board members.

Module Authors:

Sarah W. Blackstone, Ph.D.
E. Lucinda Cassatt-James, Ph.D.
Elaine Trefler, M.Ed.
Carol Flexer, Ph.D.

These individuals comprise a group of nationally recognized experts who were responsible, along with the project staff, for developing the material's content.

External Advisory Board and Peer Reviewers:

The External Advisory Board and peer reviewers included Mary Brady, Linda Burkhart, Philippa Campbell, Cynthia Compton, Susan Elting, Don Goldberg, David Hawkins, Susan Hough, Mary Blake Huer, Bill Lee, Janice Light, Bill Lynn, Noel Matkin, Shirley McNaughton, Beth Mineo, Marion Panyan, Kathy Post, Susan Quinlisk-Gill, Eileen Raab, Mark Ross, Janis Speck, and Lana Warren. All of these individuals are leaders in the area of assistive technology.

Internal Advisory Board:

The Internal Advisory Board was comprised of consultants within the ASHA National Office, including Stan Dublinske, Jo Williams, Cassandra Peters-Johnson, Kathryn Nickell, Helen Pollack, and Diane Paul-Brown.

Site Coordinators:

Four site coordinators were selected from four different states, including Judy Montgomery (California), Peggy Locke (Minnesota), Richard Lytton (Rhode Island), and Gail Van Tatenhove (Florida). Their role was to select sites in their respective states and to work with project staff in coordinating the dissemination and collection of materials and evaluation tools to and from these sites during Field Test 2.

The following tasks were accomplished during the course of the project.

Identified Needed Instructional Content

Initial efforts focused on soliciting information about module content, including a tentative list of critical issues and topics for inclusion in the modules. A preliminary survey, which was developed by project staff with input from the Internal Advisory Board, was sent to professionals in the areas of communication, education, and mobility (see Appendix A). Also included in Appendix A is a form that was sent to these professionals requesting the names of three individuals who use assistive technology with children who have severe disabilities. These names were used to create our list of frontline professionals and family members who could assist in identifying necessary content.

At this point in the project it was determined that we would create, in addition to the three modules, a separate supplement on assistive technologies for listening and hearing.

Data collected from the preliminary survey were collated and used by project staff and authors, during a meeting at the ASHA National Office, to develop content outlines for the instructional modules and project videotapes (see Appendix B). The modules were to cover the areas of communication, education, and mobility. At this point it was decided that one videotape

would be produced instead of four separate videos. All changes were approved by the project officer.

Peer Review Procedures

The curriculum outlines were then reviewed by the Internal and External Advisory Boards. Using their comments and recommendations, initial drafts of the three modules were developed by the project authors. These materials were sent to the Internal Advisory Board, the External Advisory Board, and the peer reviewers. Using an evaluation protocol (see Appendix C), each board member critiqued the printed materials. The results of the review were collated and sent to the project authors to assist them in making revisions to the modules.

Field Test 1

Working with Ellen Fagan, ASHA's director of continuing education, the evaluation protocols for Field Test 1 were developed and finalized. In coordination with administrative personnel in the Montgomery County Public Schools, 10 sites, as well as teachers, special education professionals, students and families within those sites, were identified for inclusion in this field test. All participants filled out a pre-questionnaire to determine how comfortable/confident they were with assistive technology and its implementation prior to reviewing the modules. Copies of the modules were then mailed to all participants, who were asked to fill out an evaluation form as well as a post-questionnaire to gauge changes in their comfort and confidence levels after reading the materials. See Appendix D for these materials.

Results of this field test were analyzed and collated with the help of Victor Rezmovic of Micro Automation Consultants. The results were then used by project staff and authors to revise the materials for the national field test.

Field Test 2

An initial meeting of Field Test 2 site coordinators was held at the ASHA National Office. Working with the coordinators, Field Test 1 pre- and post-questionnaires and evaluation instruments were modified to better meet the needs of Field Test 2. The site coordinators were then asked to identify sites within their states and to obtain the names of a specified number of professionals and family members within these sites for inclusion in the field test. The names and addresses of all participants were forwarded to the project staff, which coordinated the dissemination of the revised modules and videotape to all 161 participants. Again, participants were asked to fill out a pre-questionnaire, an evaluation form, and a post-questionnaire and to return all materials to ASHA (see Appendix E).

The number of field test participants per state is listed below, along with a breakdown as to the number of professionals and families by state:

California:	34 (19 professionals, 15 family)
Florida:	45 (26 professional, 19 family)
Minnesota:	41 (23 professional, 18 family)
Rhode Island:	41 (31 professional, 10 family)

It is interesting to note that the number of reviewers for each module and supplement was:

Communication:	55 (32 professional, 23 family)
Education:	53 (35 professional, 18 family)
Positioning, Access, and Mobility:	53 (32 professional, 21 family)
Listening & Hearing Supplement:	55 (33 professional, 22 family)

The variety of professions represented in the field test was credible:

33	special education teachers
30	speech-language pathologists
8	occupational therapists
6	physical therapists
5	instructional aides
4	regular education teachers
2	vision specialists
11	other

Data from the two questionnaires and the evaluation forms were compiled and analyzed by Victor Rezmovic and the results validated the helpfulness of the project materials (see Chapter 6, Evaluation of Products).

While Field Test 2 was being conducted, the project materials were being reviewed by the External Advisory Board. Their comments proved especially valuable in helping to finalize the content of the materials. Also at this time Field Test 1 participants were asked to complete a follow-up questionnaire to determine how helpful the materials had been.

Information Dissemination

Up-to-date information about the project was disseminated throughout the course of the project via a News Release that was mailed to ASHA's mailing list at the start of the project (see Appendix F), Project Updates (see Appendix G), and announcements in the *Asha* magazine and ASHA's *Language, Speech and Hearing Services in Schools* as well as other journals and newsletters, including *Augmentative Communication News*, *USSAAC News*, *Technology Horizons in Education*, *OSERS News in Print*, *Closing the Gap*, *Computer Disability News*, *Family Support Bulletin* (published by United Cerebral Palsy Association), *Spectrum* (published by Center for Rehabilitation Technology Services), *DOTS and DASHES* (published by the President's Committee on

Employment of People with Disabilities), ASHA's *Governmental Affairs Review*, *LINC Notes*, *ASAHP Newsletter*, the *ASHA State Exchange*, and the RESNA Newsletter.

A mailing list was developed from the numerous telephone inquiries about the project. Individuals on the mailing list were sent copies of the Project Updates as well as the Project Brochure (see Appendix H) which was developed in Year 2 of the project. In addition, the project director and manager presented many papers and talks throughout the course of the project, including presentations at: ASHA National Conventions in 1990 and 1991; the 5th Biennial Conference of the International Society for Augmentative and Alternative Communication in 1992; RESNA conferences in 1991 and 1992; Project Directors' meetings with the U.S. Department of Education in 1990 and 1992; the national conference Technology and Media Division of the Council for Exceptional Children; and the Closing the Gap National conference.

4. Project Materials

This section provides a brief summary of the project's products.

Communication Module

This module presents a four-phase intervention process that has been successfully used within educational programs for young children with severe communication disorders. This intervention process is built around a child's educational curriculum. Although it takes into account the flow of developmental milestones, the focus is toward helping the child achieve functional skills in all areas of life, including home, school, and community. Within the discussion of each phase of intervention are descriptions of helpful tools, techniques, and strategies. Example action and participation plans demonstrate how a child can be moved forward in his or her use of assistive technology through clear statements of who is doing what, and when and how it is being done.

Education Module

This module provides a discussion of how to assess a child's needs for assistive technology for educational purposes, integrate that technology into sensorimotor preschool and early elementary curricula, measure acquisition of the use of that technology, and sell others on the merits of technology.

Positioning, Access, and Mobility Module

This module introduces the reader to the importance of proper positioning as well as considerations in selecting and using appropriate technologies for positioning. A suggested format for assessing and providing technology that will help a child access technical devices is provided, along with a discussion about using technology for environmental control. Basic principles for a child's mobility needs and the use of assistive technology to meet those needs are presented.

Listening and Hearing Supplement

This supplement addresses listening and hearing difficulties among young children with severe disabilities. Hearing technologies are described, along with practical suggestions for their use. Strategies to encourage listening are also included.

Project Videotape

The project videotape is entitled, "Assistive Technology: We Can Do It!" This 15-minute video provides an upbeat and motivational look at children with severe disabilities effectively using assistive technology in the home, school, and community. It is captioned for the hearing impaired.

5. Distribution of Project Materials

Complete sets of the project materials are being distributed to State Education Agencies, selected professional preparation programs, the External Advisory Board/peer reviewers, and Field Test 2 site coordinators. In addition, complete sets will be sent to selected professional organizations, such as AOTA, APTA, USSAAC, TASH. This will enable these professionals to become familiar with and promote the use of the instructional materials through their state and national networks. As specified in the original grant proposal, materials will then be sold at cost for a three-month period.

Marketing and sale of the completed project materials will be planned and accomplished in conjunction with ASHA's Marketing and Sales Division.

6. Evaluation of Products

The modules, the supplement, and the videotape were reviewed by 161 participants during the national field test, and were peer reviewed by 19 experts in the fields of education, audiology, speech-language pathology and occupational therapy.

Statistically significant Field Test 2 results indicated that, after reviewing the project materials, family members and professionals became more comfortable with their knowledge of assistive technology and that professionals felt more competent in using assistive technology.

In the spring of 1992, we also conducted a follow-up of Field Test 1 participants to determine if the materials had been useful to them and what (if any) kinds of changes had taken place in their beliefs and practices (see Appendix I). The follow-up indicated an increase in participants' level of awareness of assistive technology and an increase in their efforts to seek additional information and resources about assistive technology.

Many of the educational sites across the country that have seen the materials have expressed tremendous enthusiasm for buying and using the materials. Comments made by Field Test participants and expert reviewers have included the following:

> "The modules are excellent and the videotape so moving, I only wish I had access to these materials sooner!"
>
> "I found the videotape to be an important new tool for use with educators. I will look forward to making it available to schools as an initial attitude-builder and provider of general information."
>
> "I'm completely impressed.... what a wonderful example of how assistive technology enables severely disabled children to live, learn, and play with the peers. It stirs your curiosity."

Individuals who attended presentations about the project materials expressed a desire to have the materials now; their need is obvious and immediate.

7. Future Implications

Initial assessment of the project products by the External Advisory Board/peer reviewers has been extremely positive. The long-term impact of the products for children with severe disabilities who use assistive technology will be born out with time. However, follow-up of Field Test 1 participants revealed two changes they perceived in themselves: An increase in their level of awareness of assistive technology, and an increase in their efforts to seek additional information and resources about assistive technology.

Appendix A
Preliminary Survey of Critical Issues

SURVEY

IMPLEMENTATION OF ASSISTIVE TECHNOLOGY WITH SEVERELY HANDICAPPED LEARNERS (AGES 2 TO 7 YEARS) WITHIN EDUCATIONAL SETTINGS: A MAIL SURVEY

Name:
Profession:
Position:
Major Activity:
Daytime Telephone:

	Not Experienced				Very Experienced
	1	2	3	4	5
1. Please rate your experience using assistive devices to implement an:					
A. Educational curriculum in the					
Classroom	1	2	3	4	5
Home	1	2	3	4	5
Community	1	2	3	4	5
Other_____	1	2	3	4	5
B. Augmentative communication program in the					
Classroom	1	2	3	4	5
Playground	1	2	3	4	5
Home	1	2	3	4	5
Community	1	2	3	4	5
Other_____	1	2	3	4	5
C. Play/recreational program in the					
Classroom	1	2	3	4	5
Playground	1	2	3	4	5
Home	1	2	3	4	5
Community	1	2	3	4	5
Other_____	1	2	3	4	5
D. Mobility program in the:					
Classroom	1	2	3	4	5
Playground	1	2	3	4	5
Home	1	2	3	4	5
Community	1	2	3	4	5
Other_____	1	2	3	4	5

PLEASE ANSWER QUESTIONS 1-5 ACCORDING TO ITS IMPORTANCE, WITH 1 - LESS IMPORTANT AND 5 - VERY IMPORTANT

2. Please list the managerial skills you feel a classroom teacher needs to implement the use of assistive technology successfully with severely handicapped children, ages 2 to 7 in educational settings?

a. _____ 1 2 3 4 5
b. _____ 1 2 3 4 5
c. _____ 1 2 3 4 5

3. Please list the instructional skills you feel teachers and clinicians need to implement the use of assistive technology successfully with severely handicapped children, ages 2 to 7?

a. _____ 1 2 3 4 5
b. _____ 1 2 3 4 5
c. _____ 1 2 3 4 5

a. _____ 5 4 3 2 1
b. _____ 5 4 3 2 1
c. _____ 5 4 3 2 1

4. List seating and positioning considerations underlying success of assistive technology applications in the educational curriculum, an augmentative communication program, for play and recreational activities, and for independent mobility.

a. _____ 1 2 3 4 5
b. _____ 1 2 3 4 5
c. _____ 1 2 3 4 5

a. _____ 5 4 3 2 1
b. _____ 5 4 3 2 1
c. _____ 5 4 3 2 1

a. _____ 5 4 3 2 1
b. _____ 5 4 3 2 1
c. _____ 5 4 3 2 1

a. _____ 5 4 3 2 1
b. _____ 5 4 3 2 1
c. _____ 5 4 3 2 1

5. Please list the topic areas you feel should be included in each module and in the introduction to the training packet.

Preamble:

a. _____ 1 2 3 4 5
b. _____ 1 2 3 4 5
c. _____ 1 2 3 4 5

Educational curriculum:

a. _____ 1 2 3 4 5
b. _____ 1 2 3 4 5
c. _____ 1 2 3 4 5

Augmentative communication:

a. _____ 1 2 3 4 5
b. _____ 1 2 3 4 5
c. _____ 1 2 3 4 5

Play and leisure:

a. _____ 1 2 3 4 5
b. _____ 1 2 3 4 5
c. _____ 1 2 3 4 5

Mobility and access:

a. _____ 1 2 3 4 5
b. _____ 1 2 3 4 5
c. _____ 1 2 3 4 5

6. Please circle and specify the name (if it is a commercially available device) of all assistive technologies (electronic, nonelectronic) you know are currently being used with children from ages 2 to 7 for the purposes listed below:.

Instructional curriculum:
Computer_____
Adaptive firmware card _____
Speech synthesizer_____
Page turner_____

Electronic Communication aid_____
Miniboards_____
Switches_____
Software_____
Other_____

Augmentative communication:

Computer_____
Adaptive firmware card_____
Speech synthesizer_____
Electronic Communication aids_____
Miniboards_____
Switches_____
Software_____
Communication board_____
Call signal_____
Etran_____
Communication vests_____
Tangible symbols_____
Other_____

Play/leisure:

Computer_____
Adaptive firmware card_____
Speech synthesizer_____
Electronic Communication aid_____
Miniboards_____
Switches_____
Software_____
Communication board_____
Call signal_____
Etran_____
Communication vests_____
Other_____

Mobility:

Electric wheelchair_____
Motorized scooter_____
Walker_____
Push cart_____
Other_____

Individuals Currently Using Assistive Device Technology

Please list the names of three individuals who currently use assistive technology effectively with children who have severe handicaps (ages 2 to 7). These individuals can be from different professions (e.g., special education, occupational therapy, speech-language pathology) and from different settings (e.g., home-based care, mainstream school, self-contained class for severely handicapped).

Name:

Position:

Address:

Telephone:

Name:

Position:

Address:

Telephone:

Name:

Position:

Address:

Telephone:

Please return this form to: Deborah Bruskin
ASHA
10801 Rockville Pike
Rockville, MD 20852

Appendix B
Content Outlines

American Speech-Language-Hearing Association
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TECHNOLOGY IN THE CLASSROOM

PREAMBLE

The preamble to the "Technology in the Classroom" modules will contain information pertinent to all three modules (i.e., Communication, Education, and Mobility). Its purpose will be to provide information and generate enthusiasm for the topic. The tone will be upbeat and positive, although realistic.

I. Overview

A. Purpose of the project

B. Definition and description of each module

II. Background

A. Need

1. Lack of information for service providers
2. Lack of training facilities

B. Benefits

1. Distance education
2. Self-instruction

C. Target Audience

D. Target Population

1. Age group
2. Educational setting
3. Appropriate age for using assistive devices
4. What happens before age 2 and after age 7

III. Definition of Terms

A. Severe disabilities

B. Disabled vs. handicapped

C. Technology

D. Assistive devices

Preamble (Cont'd)

IV. Guiding Principles

A. Technology as a tool

1. Use to create learning environment, not as related service
2. Use to allow child to participate in educational environment
3. Technology viewed as a general concept, not as specific devices
4. Providing opportunities
   a. allows student to achieve educational potential
   b. helps student acquire functional skills
   c. helps student function in least restrictive environment

B. Service Delivery Models

1. Examples
2. Elements of effective models
3. Team approach
4. Roles of team members
5. Collaboration among team members
6. Resources
7. Skills needed by case manager

C. Integration of technology into educational settings

1. Assessment of student needs
2. System selection
   a. multi-component
   b. multiple environments
   c. balance between real and ideal
3. Student training
   a. goals based on student needs
   b. compatible goals
   c. meet educational needs while training student to use assistive devices
   d. utilize best teaching practices (e.g., foster independence/codependence, improve self-concept, demand responsibility, use real activities and real-life situations, have realistic expectations, understand learning curve and variable rate of learning)
4. Evaluation of system effectiveness
5. System revision, as appropriate

V. Potential Roadblocks

A. Resistance to new approaches

B. Methodology for overcoming negative mindsets and attitudes

1. Fostering positive attitudes
2. Raising level of awareness

Preamble (Cont'd)

C. Stress on the family (e.g., gadget tolerance, overload, fear)

D. Cost factors (e.g., devices, professional time, maintenance)

VI. Legislation and Public Policy

A. P.L. 94-142 - The Education for All Handicapped Children Act

B. P.L. 100-407 - Technology-Related Assistance for Individuals with Disabilities Act

C. P.L. 94-457 - Education of the Handicapped Children Act - Amendment of '86

D. Americans with Disabilities Act (ADA)

E. Rights of parents and children

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TECHNOLOGY IN THE CLASSROOM

COMMUNICATION MODULE OUTLINE

I. Preamble

II. Overview

A. Goals and objectives

B. Guiding principles

1. Encourage use of augmentative communication (AC) as early as possible
2. AC use facilitates speech development
3. Incorporate speech development with use of AC

III. Requisite Skills

A. Principles of augmentative communication

B. Assistive devices for communication

C. Intervention strategies

D. Integration of augmentative communication systems into educational environments

E. Service Delivery

IV. Operational Definitions of Terms and Concepts

A. Augmentative communication

B. Assistive devices/communication aids

C. Pragmatics

D. Communication environment

E. Metalinguistic communication skills

V. Review of Current Thinking and Existing Literature

VI. Intervention Strategies

A. Importance

B. Basic principles

1. No prerequisities for use of augmentative communication
2. Available for all nonvocal children, no matter how severely disabled

C. Examples of assistive devices for communication

D. Assessment

1. Communication needs assessment
2. Communication skills
3. Cognitive skills
4. Audiological and visual assessment
5. Perceptual skills (symbols/recognition)
6. Ability to access electronic/nonelectronic communication systems
7. Need to modify test materials
8. Environment
9. Vocabulary needs
10. Opportunities to participate
11. Inclusion criteria
12. English proficiency
13. Intelligibility of speech
14. Respiration/phonation
15. Ongoing assessment with revisions
16. Positioning needs

E. System selection

1. Multicomponent system
    a. electronic and nonelectronic components
    b. modular components
2. Access in multiple environments
3. Input/output needs
4. Symbol sets
5. Simulated communication devices
6. Funding
7. Repair and maintenance costs
8. Balance real and ideal

F. Training

1. Functional communication - pragmatics
    a. range of speech acts
        1. choicemaking
        2. turntaking
        3. greetings/partings
        4. gaining attention
        5. directing action
    b. prelinguistic aspects to discourse
    c. conversational discourse skills
    d. interactive communication
    e. participation in daily activities
    f. age appropriate activities/materials
2. Receptive language
    a. multiple input methods

b. aided language simulation
c. maximization of peripheral hearing
d. relating all degrees of hearing loss to language acquisition
e. augmentative communication as an immersion language
f. voice output communication aids
    1. enhance comprehension
    2. model sentence structure
g. environment as communication milieu
h. training communication in absence of a reliable output mode
i. acoustic environments
j. listening skills

3. Expressive language
    a. augmentative communication needs of children with limited intelligibility
    b. conversational repair strategies
    c. dyadic interaction
    d. group communication skills
    e. storytelling skills
    f. humor
    g. client-centered vocabulary
    h. use of voice output systems to facilitate expressive communication
    i. speech development
    j. written language development
4. Augmentative communication system access
    a. operational skills
    b. access strategies
        1. light pointing
        2. eye pointing
        3. direct selection/scanning/encoding
    c. applications
        1. simulated activities
        2. language master
        3. voice output communication aids
        4. language boards
        5. message sending
    d. vocabulary expansion
    e. rate enhancement vs. language development
5. Strategies to integrate augmentative communication into learning environments
    a. engineer environment
    b. organize vocabulary
    c. provide visual and auditory access to instruction and materials
    d. provide access to materials and AC system
    e. make system compatible with class structure
    f. provide access in multiple environments
    g. make goals compatible across teaching areas

Communication Module (Cont'd)

6. Communication training strategies
    a. incidental teaching
    b. language experience
    c. access to regular life and regular people
    d. developmental teaching
    e. appropriate materials and activities
    f. functional activities
    g. facilitate interaction
    i. participation
    j. incorporate AC into individual education plans
7. Communication partners
    a. positioning of student relative to communication partner
    b. partner's understanding of mechanics of system
    c. partner ease/comfort factor
    d. facilitate communication opportunities
    e. metalinguistic communication skills
    f. family members involved in training

V. Future

VI. Summary

VII. Resources

VIII. Appendices

IX. Evaluation (for field test only)

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TECHNOLOGY IN THE CLASSROOM

MOBILITY MODULE OUTLINE

I. Preamble

II. Overview

- A. Goals and objectives
- B. Guiding principles

III. Definitions

- A. Mobility
- B. Positioning
- C. Environmental control
- D. Assistive devices

IV. Requisite Skills

- A. Intervention strategies
- B. Service delivery
- C. Integrating use of assistive devices into the classroom

V. Review of Current Thinking and Existing Literature

VI. Intervention Strategies

- A. Positioning
  1. Importance
  2. Basic principles
  3. Prerequisites
  4. Examples of positioning equipment
  5. Assessment
     - a. Motor sites
     - b. Function
     - c. Muscle tone
     - d. Reflexes
     - e. Positioning needs for a variety of purposes
     - f. Ongoing assessment with revisions
  6. System selection
     - a. Match to needs
     - b. Provide a variety of positions for various purposes

1. movement
2. access to visual and auditory input
3. access to play and learning materials
4. access to technology

c. Student considerations
1. body image
2. social interaction
3. growth factors
4. height vs. teachers and peers
5. need for support and stability
6. modification to classroom equipment
7. student feedback about positioning and interface selections
8. fatigue factors

d. Economic issues
e. Environmental issues
f. Balance practical and ideal

7. Training
a. Functional use of control sites
b. Access to technology
c. Accuracy of selection
d. Speed of using device
e. Improvement of skills through appropriate positioning
1. phonation/speech output
2. listening skills
f. Balance, range, resolution, and speed issues
g. Strategies to integrate use in learning environments

B. Mobility

1. Basic principles
a. Population
b. Age levels
2. Prerequisites
3. Examples of mobility equipment
a. Types
b. Controls
4. Importance
5. Assessment
a. Control sites
b. Mobility needs
c. Environments
d. Assess hearing if speech will be used for giving directions
e. Perceptual skills
f. Ongoing assessment with revisions
6. System selection
a. Match specifications to needs
b. Access in multiple environments
c. Integrate with other systems (e.g., communication)
e. Reality-based decisions
f. System components (e.g., switches, controls)
g. Student considerations

1. age
2. aesthetics
3. size/growth factors
4. motivation
5. independence/social factors
6. perception of system
7. self-image

h. Family considerations
1. family view
2. home access
3. transportation
4. community access

i. Potential roadblocks
1. funding
2. availability of recommended system components
3. repair cost/ maintenance process

7. Training
a. Nonelectronic preparation for powered mobility
b. Coordination of goals
c. Simulation
d. Training through fun activities
e. Trainer controls for safety
f. strategies to integrate use in learning environments

C. Environmental control

1. Purposes
2. Assessment
3. Training

D. Service delivery models

1. Examples
2. Elements of effective models
3. Roles
4. Finding qualified consultants

E. Case studies

F. Simulated learning experiences

VII. Future

VIII. Summary

IX. Resources

X. Appendices

XI. Evaluation (for field test only)

American Speech-Language-Hearing Association
10801 Rockville Pike • Rockville, Maryland 20852 • (301) 897-5700 (Voice or TTY)

TECHNOLOGY IN THE CLASSROOM

EDUCATIONAL CURRICULUM MODULE OUTLINE

I. Preamble

II. Overview

A. Goals and objectives

B. Guiding principles

III. Definitions

IV. Requisite Skills

A. Management Skills

1. Communication
2. Interpersonal
3. Negotiation
4. Supervision
5. Time management
6. Coordination
7. Leadership

B. Knowledge of Educational Practices

1. Curriculum content
2. Learning theory
3. Individualized instruction
4. Curriculum adaptation
5. Goal setting (life and educational)
6. Assistive technology as an educational tool

C. Intervention strategies

D. Service Delivery

V. Review of Current Thinking and Existing Literature

VI. Intervention Strategies

A. Assessment

1. Assess educational needs
   a. task analysis
   b. adaptive skills
   c. academic skills
   d. test materials modification

f. audiological and visual assessment
g. listening skills
h. english proficiency
i. ongoing assessment with revisions

2. Assess need for assistive technology
   a. educational tool
   b. compensation
   c. alternative means of input/output
   d. equalized play/recreation
   e. simulated experiences
3. Assess ability to access technology
   a. user capabilities
   b. access methods
   c. multiple learning environments
   d. importance of positioning
   e. input options (direct selection, scanning, encoding)

B. System selection
1. Match system components to needs
   a. multi-component system
   b. electronic and nonelectronic components
2. Meet needs in multiple learning environments
   a. access to visual and auditory input
   b. access to educational and play materials
   c. access to assistive devices
   d. facilitate skill development
3. Student considerations
   a. socialization
   b. interaction (peers and adults)
   c. participation
   d. audiological and visual status
   e. comfort
   f. least restrictive environment (LRE)
4. Family considerations
   a. communication between home and school
   b. transition from family-based to center-based program
   c. system components compatible with family view
5. Economic issues (funding and maintenance)
6. Environmental issues
7. Balance practical and ideal
8. Examples of assistive devices and technology systems

C. Training

1. Educational principles
   a. naturalistic activities
   b. incidental teaching
   c. useful skills

2. Functional curriculum
    a. functional skills (e.g., reading, self-help)
    b. domains (e.g., academic, recreation/leisure, community, vocational/pre-vocational)
3. Toddler (2 years)
    a. play
    b. socialization
    c. adaptive skills
    d. language development
    e. therapy needs
4. Preschool (3-4 years)
    a. pre-academics
    b. interaction
    c. play
    d. communication
    e. therapy needs
5. School age (5-7 years)
    a. academics
    b. literacy (reading/writing)
    c. motor development
    d. therapy needs
6. Technology goals
    a. when to begin
    b. keyboard skills
    c. access to education (technology as a tool)
    d. access to assistive devices/technology
        1. operational skills
        2. speed
        3. accuracy of selection
        4. balance of goals
    e. equalized play
    f. computer-assisted instruction (CAI)
        1. education
        2. therapy
        3. compensation
        4. recreation/play
        5. simulated experiences
        6. examples (software)
    g. integration of technology into the curriculum
7. Student considerations
    a. materials
        1. age and developmentally appropriate
        2. real objects
        3. adapted
    b. needs across environments
    c. access to educational materials
    d. access to visual and auditory input
        1. classroom acoustics
        2. placement of materials
        3. hearing and vision status
        4. listening skills
    e. typical peers

f. role models (adults and children with and without disabilities)
g. independence/codependence

D. Engineering the environment

1. Multiple environments
2. Multiple settings within environments
3. Organization of learning environments to integrate use of assistive devices
4. Materials
   a. stabilize
   b. adapt
5. Activities
   a. compensation
   b. simulation
   c. active participation
   d. interaction

E. Measuring teaching effectiveness

1. Data-based decision making
2. Applied behavioral analysis
3. Manipulation of contigencies to shape behaviors
4. Ongoing review and revision of strategize
5. Future planning

F. Service delivery models

1. Team approach
2. Elements of effective models
3. Roles (team members and case manager)
4. Team coordination
5. Locating qualified consultants
6. Coordinating with outside experts

G. Resources

1. Access
2. Available facilities

VI. Future

VII. Summary

VIII. Appendices

IX. Evaluation (for field test only)

Appendix C
Sample Evaluation Protocol

Technology in the Classroom

POSITIONING AND MOBILITY MODULE

Peer Review Response Form

After reviewing the enclosed Positioning and Mobility Module, please evaluate each section and write your comments on the space provided below. Please continue your comments on the back, if necessary.

1. I agree with the basic content of this module. Yes ___ No ___

2. Comments and/or suggestions on Part 1 - Making a Move Toward Technology:

_____

_____

_____

_____

_____

3. Comments and/or suggestions on Part 2 - Positioning:

_____

_____

_____

_____

_____

4. Comments and/or suggestions on Part 3 - Mobility:

_____

_____

_____

_____

_____

5. What level of reader sophistication do you feel this module addresses:

6. Does this module address the full range of children (ages 2 through 7) who fall within the classification of "severely disabled"?

7. Does this module address the full range of technologies available to children in this age group and classification?

8. What, if anything, should be added to this module?

9. What, if anything, should be deleted from this module?

_____

_____

_____

_____

_____

Thank you for taking the time to complete this evaluation. Please return this form in the accompanying envelope by **Friday, May 31**, to:

Nancy T. Harlan, Director
Technology in the Classroom
American Speech-Language-Hearing Association
10801 Rockville Pike, Rockville, MD 20852

Appendix D

Field Test 1 Evaluation Form and Pre- and Post-Questionnaire

EVALUATION OF MODULE

We would like to ask you a few questions about the module you read. This evaluation will help us make revisions to future versions. Your honest feedback about this component of the training materials is valuable to us and we appreciate the time you spend completing this form.

1. Name: _____
   (First) (Middle Initial) (Last)

2. School: _____

3. Date you are completing this form: _____
   Yr./Month/Day

4. Which module are you reviewing on this form? Circle one.

   1 Communication
   2 Mobility
   3 Education

In this section, please relate your answer to the topic you read in the module. "Assistive technology" refers to the specific technology referred to in the module you are evaluating. Please use the following rating scale to answer the statements in items 5 through 14. Circle one number per item.

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

5. The approach used in the module was clear and organized. 1 2 3 4 5

6. The module communicated the information well. 1 2 3 4 5

7. The module used examples to make points clearer. 1 2 3 4 5

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

8. The module usually held my attention. 1 2 3 4 5

9. The module stimulated my interest in discovering additional information on my own. 1 2 3 4 5

10. Reading a module is an effective way to learn new information and its applications. 1 2 3 4 5

11. Reading this module increased my knowledge and understanding of assistive/instructional technology. 1 2 3 4 5

12. As a result of reading this module, I am more aware of different types of assistive technology I could use with children with disabilities. 1 2 3 4 5

13. As a result of reading this module, I will be more likely to explore the use of different types of assistive technology for children with disabilities. 1 2 3 4 5

14. As a result of reading this module, I would like further information on using assistive technology in curriculum and intervention strategies. 1 2 3 4 5

---

15. What were the major strengths and/or features that you liked about this module? Include in your comments your impression of the quality of the content.

_____

_____

_____

_____

_____

_____

16. What were the major weaknesses of this module?

_____

_____

_____

_____

_____

_____

17a. Is the content of this module relevant to all populations that you serve? Yes ___ No ___

17b. If you answered "No" to question 17a, what other populations should be addressed in this module?

_____

_____

_____

_____

_____

_____

18. How might we improve this module so that it is a better learning tool? (Please list at least 3 suggestions.)

_____

_____

_____

_____

_____

_____

Thank you for completing this form.
Please use the enclosed envelope to mail it to:

Nancy Harlan
American Speech-Language-Hearing Association
10801 Rockville Pike
Rockville, MD 20852

If you have any questions about this form, call Nancy Harlan at 301-897-5700.

This form is due to Nancy Harlan on or before May 1, 1991.

GENERAL INFORMATION PRE-ASSESSMENT TOOL
(To be completed by teachers and related services personnel)

We would like to ask you a few questions about yourself for statistical purposes.

PERSONAL DATA

1. Name: _____
(First) (Middle Initial) (Last)

2. School Address:

_____

_____

3. Daytime phone number: _____
(area code) (number)

4. Date you are completing this form: _____
Yr./Month/Day

EDUCATIONAL EXPERIENCES

5. For each degree you have completed, please indicate (in the table) the year, the discipline in which you completed each degree, and the institution where you completed the degree. If you have more than one degree of the same type (e.g., two masters degrees), please indicate both by writing between the lines on on the back of the form.

Degree	Year Completed	Discipline	Institution
BA/BS	19 ___ ___	_____	_____
MA/MS	19 ___ ___	_____	_____
PhD/EdD	19 ___ ___	_____	_____

6. How many academic courses have you taken in the last 5 years that pertained specifically to the use of assistive and/or instructional technology* for persons with disabilities? Circle one number.

1	None
2	1 - 3
3	4 - 6
4	7 - 9
5	10 - 12
6	more than 12

7. How many continuing education courses (including inservice presentations) have you taken in the last 5 years that pertained specifically to the use of assistive and/or instructional technology for persons with disabilities? Circle one number.

1	None
2	1 - 3
3	4 - 6
4	7 - 9
5	10 - 12
6	more than 12

SITE DATA

8. How many years have you been employed in your current profession/discipline.

____ YEARS

*Assistive and/or instructional technology - any item, pieces of equipment, or systems that are used for educational purposes or to increase, maintain, or improve the functional capabilities of persons with disabilities. This includes systems or devices to facilitate communication (i.e., communication assistive devices), mobility (i.e., mobility assistive devices), and educational ability (i.e., educational assistive devices).

9. Circle the number that best describes your current employment situation.

1 Special Education Teacher
2 Instructional Aide
3 Speech-Language Pathologist
4 Audiologist
5 Occupational Therapist
6 Physical Therapist
7 Physical Education Teacher
8 Regular Education Teacher
9 Vision Specialist
10 Other _____ (specify)

10. How many schools do you currently serve?

_____ school(s)

11. Are you itinerant or school-based? (Circle one.)

1 Itinerant
2 School-based
3 Other (explain) _____

12. Circle all the numbers that apply to the type(s) of program in which you are employed. Indicate the number of programs you serve in each category and the total number of students in that program type that you service. (For example, if you serve three center-based programs with 20, 5, and 8 students per center, circle #2 (center-based), write "3" under "number of programs" and write "33" under "total number of students.")

Program type	Number of programs	Total number of students
1 home-based	_____	_____
2 center-based	_____	_____
3 community-based*	_____	_____
4 regular education	_____	_____
5 mainstream classroom	_____	_____

* special program housed in a regular program

13. This question has four parts. We want to know how many students you serve at the site listed in question #2 (school address), how many of those students are currently using some type of assistive technology, how many of those students are not currently using some type of assistive technology, and how many of the students not using assistive technology could potentially benefit from using assistive technology. (Please complete the chart.)

13a. Total number of students served by you at this site: _____

13b. Of that total (13a), the number of students that are currently using assistive technology: _____

13c. Of that total (13a), the number of students that are not currently using assistive technology: _____

13d. Of the number of students that are not currently using assistive technology (see 13c), how many could potentially benefit from using some type of assistive technology? _____

14. Circle the number corresponding to the types of support services currently being used in your program (including those that you yourself provide). (Circle all that apply.)

1 Physical therapy/Physical therapist
2 Occupational therapy/Occupational therapist
3 Speech-Language Pathology services
4 Audiology services
5 Teacher of the hearing impaired
6 Resource Technology Specialist(s)
7 Adaptive PE teacher
8 Curriculum development personnel
9 Vision Specialist
10 Other _____ (specify)
_____
_____

Please use the following rating scale to answer the statements in items 15 through 29. Circle one number per item.

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

15.	I feel comfortable in my knowledge level related to using communication assistive technology with children with disabilities.	1 2 3 4 5
16.	I feel comfortable in my knowledge level related to using mobility assistive technology with children with disabilities.	1 2 3 4 5
17.	I feel comfortable in my knowledge level related to using educational assistive technology with children with disabilities.	1 2 3 4 5
18.	I would like to know more about the use of communication assistive technology for persons with severe disabilities.	1 2 3 4 5
19.	I would like to know more about the use of mobility assistive technology for persons with severe disabilities.	1 2 3 4 5
20.	I would like to know more about the use of educational assistive technology for persons with severe disabilities.	1 2 3 4 5
21.	I feel competent in participating in team decisions in selecting communication assistive technology for children with severe disabilities.	1 2 3 4 5
22.	I feel competent in participating in team decisions in selecting mobility assistive technology for children with severe disabilities.	1 2 3 4 5

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

23.	I feel competent in participating in team decisions in selecting <u>educational</u> assistive technology for children with severe disabilities.	1	2	3	4	5
24.	I feel competent in implementing <u>communication</u> assistive technology with children with severe disabilities.	1	2	3	4	5
25.	I feel competent in implementing <u>mobility</u> assistive technology with children with severe disabilities.	1	2	3	4	5
26.	I feel competent in implementing <u>educational</u> assistive technology with children with severe disabilities.	1	2	3	4	5
27.	The quality of current implementation of <u>communication</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5
28.	The quality of current implementation of <u>mobility</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5
29.	The quality of current implementation of <u>educational</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5

Thank you for completing this questionnaire.
Please use the attached envelope to mail it to: Nancy Harlan, ASHA, 10801 Rockville Pike, Rockville, MD 20852

If you have any questions about this questionnaire, call Nancy Harlan at 301-897-5700 or FAX at 301-571-0457.
Return this form to Nancy Harlan by _____.

GENERAL INFORMATION POST-ASSESSMENT TOOL
(To be completed by teachers and related services personnel)

We would like to ask you a few follow-up questions about yourself for statistical purposes.

PERSONAL DATA

1. Name: _____
(First) (Middle Initial) (Last)

2. Date you are completing this form: _____
Yr./Month/Day

EDUCATIONAL EXPERIENCES

(IF YOU HAVE COMPLETED ADDITIONAL EDUCATIONAL COURSES OR DEGREES **SINCE BECOMING A PARTICIPANT IN THIS STUDY**, PLEASE ANSWER QUESTIONS #3, #4, AND #5. IF NOT, PLEASE SKIP TO THE SECTION ON "SITE DATA" AT THE TOP OF PAGE THREE.)

3. If you have completed a degree since you became a participant in this study, please indicate (in the table) the year, the discipline in which you completed the degree, and the institution where you completed the degree. If you have completed more than one degree of the same type (e.g., two masters degrees), please indicate both by using the extra space at the bottom of the page or by writing between the lines.

Degree	Year Completed	Discipline	Institution
BA/BS	19 ___ ___	_____	_____
MA/MS	19 ___ ___	_____	_____
PhD/EdD	19 ___ ___	_____	_____

4. How many academic courses have you taken since becoming a participant in this study that pertained specifically to the use of assistive and/or instructional technology* for persons with disabilities? If you are currently enrolled in a course but have not completed it, you may count that also. Circle one number.

1 None
2 1 - 3
3 4 - 6
4 7 - 9
5 10 - 12
6 more than 12

5. How many continuing education courses (including inservice presentations) have you taken since becoming a participant in this study that pertained specifically to the use of assistive and/or instructional technology for persons with disabilities? **DO NOT COUNT** the videotape or printed material you reviewed for this study as a continuing education activity. Circle one number.

1 None
2 1 - 3
3 4 - 6
4 7 - 9
5 10 - 12
6 more than 12

---

*Assistive and/or instructional technology - any item, pieces of equipment, or systems that are used for educational purposes or to increase, maintain, or improve the functional capabilities of persons with disabilities. This includes systems or devices to facilitate communication (i.e., communication assistive devices), mobility (i.e., mobility assistive devices), and educational ability (i.e., educational assistive devices).

SITE DATA

(IF ANY ASPECT OF YOUR EMPLOYMENT HAS CHANGED SINCE BECOMING A PARTICIPANT IN THIS STUDY (E.G., POSITION, CASELOAD, TYPES OF PROGRAMS IN WHICH YOU WORK), PLEASE ANSWER QUESTIONS #6 THROUGH #9. IF NOT, PLEASE SKIP TO QUESTION #10.)

6. During the course of this study, if you changed employment situations, please indicate your new position. (Circle one.)

1 Special education teacher
2 Instructional Aide
3 Speech-Language Pathologist
4 Audiologist
5 Occupational Therapist
6 Physical Therapist
7 Physical Education Teacher
8 Regular Education Teacher
9 Other _____ (specify)

7. How many schools do you currently serve?

_____ school(s)

8. Are you itinerant or school-based? (Circle one.)

1 Itinerant
2 School-based
3 Other (explain) _____

9. Circle all the numbers that apply to the type(s) of program in which you are employed. Indicate the number of programs you serve in each category and the total number of students in that program type that you service. (For example, if you serve three center-based programs with 20, 5, and 8 students per center, circle #2 (center-based), write "3" under "number of programs" and write "33" under "total number of students.")

Program type	Number of programs	Total number of students
1 home-based	_____	_____
2 center-based	_____	_____
3 community-based*	_____	_____
4 regular education	_____	_____
5 mainstream classroom	_____	_____

* special program housed in a regular program

10. This question has four parts. We want to know how many students you now serve at the site used for this study, how many of those students at this site are currently using some type of assistive technology, how many of those students are not currently using some type of assistive technology, and how many of the students not using assistive technology you feel could potentially benefit from using assistive technology. (Please complete the chart.)

10a. Total number of students served by you at this site: _____

10b. Of that total (10a), the number of students that are currently using assistive technology: _____

10c. Of that total (10a), the number of students that are not currently using assistive technology: _____

10d. Of the number of students that are not currently using assistive technology (see 10c), how many could potentially benefit from using some type of assistive technology? _____

11. Circle the number corresponding to the types of support services currently being used in your program (including those that you yourself provide). (Circle all that apply.)

1 Physical therapy/Physical therapist
2 Occupational therapy/Occupational therapist
3 Speech-Language Pathology services
4 Audiology services
5 Teacher of the hearing impaired
6 Resource Technology Specialist
7 Adaptive PE teacher
8 Curriculum development personnel
9 Vision Specialist
10 Other _____ (specify)
_____
_____

Please use the following rating scale to answer the statements in items 12 through 26. Circle one number per item.

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

12. I feel comfortable in my knowledge level related to using communication assistive technology with children with disabilities. 1 2 3 4 5

13. I feel comfortable in my knowledge level related to using mobility assistive technology with children with disabilities. 1 2 3 4 5

14. I feel comfortable in my knowledge level related to using educational assistive technology with children with disabilities. 1 2 3 4 5

15. I would like to know more about the use of communication assistive technology for persons with severe disabilities. 1 2 3 4 5

16. I would like to know more about the use of mobility assistive technology for persons with severe disabilities. 1 2 3 4 5

17. I would like to know more about the use of educational assistive technology for persons with severe disabilities. 1 2 3 4 5

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

18.	I feel competent in participating in team decisions in selecting <u>communication</u> assistive technology for children with severe disabilities.	1	2	3	4	5
19.	I feel competent in participating in team decisions in selecting <u>mobility</u> assistive technology for children with severe disabilities.	1	2	3	4	5
20.	I feel competent in participating in team decisions in selecting <u>educational</u> assistive technology for children with severe disabilities.	1	2	3	4	5
21.	I feel competent in implementing <u>communication</u> assistive technology with children with severe disabilities.	1	2	3	4	5
22.	I feel competent in implementing <u>mobility</u> assistive technology with children with severe disabilities.	1	2	3	4	5
23.	I feel competent in implementing <u>educational</u> assistive technology with children with severe disabilities.	1	2	3	4	5
24.	The quality of current implementation of <u>communication</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5
25.	The quality of current implementation of <u>mobility</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5
26.	The quality of current implementation of <u>educational</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5

Thank you for completing this questionnaire.
Please use the attached envelope to mail it to: Nancy Harlan, ASHA, 10801 Rockville Pike, Rockville, MD 20852.

If you have any questions about this questionnaire, call Nancy Harlan at 301-897-5700 or FAX at 301-571-0457.

This form is due to Nancy Harlan by _____.

GENERAL INFORMATION PRE-ASSESSMENT TOOL
(To be completed by caregiver)

We would like to ask you a few questions about yourself for statistical purposes.

PERSONAL DATA

1. Name: _____
(First) (Middle Initial) (Last)

2. Address: _____

_____

3. Daytime phone number: _____
(area code) (number)

4. Date you are completing this form: _____
Yr./Month/Day

EDUCATIONAL EXPERIENCE

5. For each degree you have completed, please indicate (in the table) the year, the discipline in which you completed each degree, and the institution where you completed the degree. If you have more than one degree of the same type (e.g., two masters degrees), please indicate both by writing between the lines provided on the back of this page.

Degree	Year Completed	Discipline	Institution
High School	19 ___ ___	Not applicable	_____
BA/BS	19 ___ ___	_____	_____
MA/MS	19 ___ ___	_____	_____
PhD/EdD	19 ___ ___	_____	_____

6. How many academic courses have you taken in the last 5 years that pertained specifically to the use of assistive and/or instructional technology* for persons with disabilities? Circle one number.

1 None
2 1 - 3
3 4 - 6
4 7 - 9
5 10 - 12
6 more than 12

7. How many continuing education courses (workshops, seminars, etc.) have you taken in the last 5 years that pertained specifically to the use of assistive and/or instructional technology for persons with disabilities? Circle one number.

1 None
2 1 - 3
3 4 - 6
4 7 - 9
5 10 - 12
6 more than 12

8. Is your child using some type of assistive and/or instructional technology **at school**? Circle one number.

1 Yes
2 No
3 Unsure

IF NO OR UNSURE, SKIP TO QUESTION #10

IF YES TO QUESTION #8, ANSWER QUESTION #9

9. Indicate which type(s) of assistive and/or instructional technology your child is using **at school**. Circle all that apply.

1 Communication assistive and/or instructional technology
2 Mobility assistive and/or instructional technology
3 Educational assistive and/or instructional technology

*Assistive and/or instructional technology - any item, pieces of equipment, or systems that are used for educational purposes or to increase, maintain, or improve the functional capabilities of persons with disabilities. This includes systems or devices to facilitate communication (i.e., communication assistive devices), mobility (i.e., mobility assistive devices), and educational ability (i.e., educational assistive devices).

10. Is your child using some type of assistive and/or instructional technology **at home**? Circle one number.

1 Yes
2 No
3 Unsure

IF NO OR UNSURE, SKIP TO QUESTION #12

IF YES TO QUESTION #10, ANSWER QUESTION #11

11. Indicate which type(s) of assistive and/or instructional technology your child is using **at home**. Circle all that apply.

1 Communication assistive and/or instructional technology
2 Mobility assistive and/or instructional technology
3 Educational assistive and/or instructional technology

AFTER ANSWERING QUESTION #11, SKIP TO QUESTION #13

12. Do you think your child could benefit from using some type of assistive and/or instructional technology? Circle one number.

1 Yes
2 No
3 Unsure

IF NO OR UNSURE, SKIP TO QUESTION #14

IF YES TO QUESTION #12, ANSWER QUESTION #13

13. Which type(s) of assistive and/or instructional technology do you feel your child could benefit from using? Circle all that apply.

1 Communication assistive and/or instructional technology
2 Mobility assistive and/or instructional technology
3 Educational assistive and/or instructional technology

14. Circle the number corresponding to the types of support services your child is currently receiving in the classroom. Circle all that are applicable.

1 Physical therapy/Physical therapist
2 Occupational therapy/Occupational therapist
3 Speech-Language Pathology services
4 Audiology services
5 Teacher of the hearing impaired
6 Resource Technology Specialist
7 Adaptive PE teacher
8 Curriculum development personnel
9 Other _____ (specify)
_____

Please use the following rating scale to answer the statements in items 15 through 29. Circle one number per item.

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

15.	I feel comfortable in my knowledge level related to using communication assistive technology with children with disabilities.	1	2	3	4	5
16.	I feel comfortable in my knowledge level related to using mobility assistive technology with children with disabilities.	1	2	3	4	5
17.	I feel comfortable in my knowledge level related to using educational assistive technology with children with disabilities.	1	2	3	4	5
18.	I would like to know more about the use of communication assistive technology for children with disabilities.	1	2	3	4	5
19.	I would like to know more about the use of mobility assistive technology for children with disabilities.	1	2	3	4	5
20.	I would like to know more about the use of educational assistive technology for children with disabilities.	1	2	3	4	5
21.	I would feel competent in implementing communication assistive technology with my child at home.	1	2	3	4	5
22.	I would feel competent in using mobility assistive technology with my child at home.	1	2	3	4	5
23.	I would feel competent in using educational assistive technology with my child at home.	1	2	3	4	5
24.	My child's school does a good job using communication assistive technology with him/her.	1	2	3	4	5

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

25.	My child's school does a good job using <u>mobility</u> assistive technology with him/her.	1	2	3	4	5
26.	My child's school does a good job using <u>educational</u> assistive technology with him/her.	1	2	3	4	5
27.	At home, we do a good job of using <u>communication</u> assistive technology with our child.	1	2	3	4	5
28.	At home, we do a good job of using <u>mobility</u> assistive technology with our child.	1	2	3	4	5
29.	At home, we do a good job of using <u>educational</u> assistive technology with our child.	1	2	3	4	5

Thank you for completing this questionnaire.
Please use the attached envelope to mail it to: Nancy Harlan, ASHA, 10801 Rockville Pike, Rockville, MD 20852.

If you have any questions about this questionnaire, call Nancy Harlan at 301-897-5700 or FAX at 301-571-0457.

Return this form to Nancy Harlan by _____.

GENERAL INFORMATION POST-ASSESSMENT TOOL
(To be completed by caregiver)

We would like to ask you a few follow-up questions about yourself for statistical purposes.

PERSONAL DATA

1. Name: _____
(First) (Middle Initial) (Last)

2. Date you are completing this form: _____
Yr./Month/Day

EDUCATIONAL EXPERIENCE

(IF YOU HAVE COMPLETED ADDITIONAL EDUCATIONAL COURSES OR DEGREES **SINCE BECOMING A PARTICIPANT IN THIS STUDY**, PLEASE ANSWER QUESTIONS #3, #4, AND #5. IF NOT, PLEASE SKIP TO THE SECTION ON "ASSISTIVE TECHNOLOGY DATA" AT THE TOP OF PAGE THREE.)

3. If you have completed a degree since you became a participant in this study, please indicate (in the table) the year, the discipline in which you completed the degree, and the institution where you completed the degree. If you completed more than one degree of the same type (e.g., two masters degrees), please indicate both by using additional space at the bottom of the page.

Degree	Year Completed	Discipline	Institution
High School	19 ___ ___	Not applicable	_____
BA/BS	19 ___ ___	_____	_____
MA/MS	19 ___ ___	_____	_____
PhD/EdD	19 ___ ___	_____	_____

4. How many academic courses have you taken since becoming a participant in this study that pertained specifically to the use of assistive and/or instructional technology* for persons with disabilities? If you are currently enrolled in a course but have not completed it, you may count that also. Circle one number.

1 None
2 1 - 3
3 4 - 6
4 7 - 9
5 10 - 12
6 more than 12

5. How many continuing education courses (workshops, seminars, etc.) have you taken since becoming a participant in this study that pertained specifically to the use of assistive and/or instructional technology for persons with disabilities? **DO NOT COUNT** the videotape or printed material your reviewed for this study as a continuing education activity. Circle one number.

1 None
2 1 - 3
3 4 - 6
4 7 - 9
5 10 - 12
6 more than 12

---

*Assistive and/or instructional technology - any item, pieces of equipment, or systems that are used for educational purposes or to increase, maintain, or improve the functional capabilities of persons with disabilities. This includes systems or devices to facilitate communication (i.e., communication assistive devices), mobility (i.e., mobility assistive devices), and educational ability (i.e., educational assistive devices).

ASSISTIVE TECHNOLOGY DATA

(IF YOUR CHILD'S USE OF ASSISTIVE AND/OR INSTRUCTIONAL TECHNOLOGY HAS CHANGED **SINCE BECOMING A PARTICIPANT IN THIS STUDY**, PLEASE ANSWER QUESTIONS #6 THROUGH #9. IF NOT, PLEASE SKIP TO QUESTION #10.)

6. Is your child using some type of assistive and/or instructional technology **at school**? Circle one number.

1 Yes
2 No — IF NO OR UNSURE, SKIP TO QUESTION #8
3 Unsure

IF YES TO QUESTION #6, ANSWER QUESTION #7

7. Indicate which type(s) of assistive and/or instructional technology your child is using **at school**. Circle all that apply.

1 Communication assistive and/or instructional technology
2 Mobility assistive and/or instructional technology
3 Educational assistive and/or instructional technology

8. Is your child using some type of assistive and/or instructional technology **at home**? Circle one number.

1 Yes
2 No — IF NO OR UNSURE, SKIP TO QUESTION #10
3 Unsure

IF YES TO QUESTION #8, ANSWER QUESTION #9

9. Indicate which type(s) of assistive and/or instructional technology your child is using **at home**. Circle all that apply.

1 Communication assistive and/or instructional technology
2 Mobility assistive and/or instructional technology
3 Educational assistive and/or instructional technology

AFTER ANSWERING QUESTION #9, SKIP TO QUESTION #11

10. Do you think your child could benefit from using some type of assistive and/or instructional technology? Circle one number.

1 Yes
2 No
3 Unsure

IF NO OR UNSURE, SKIP TO QUESTION #12

IF YES TO QUESTION #10, ANSWER QUESTION #11

11. Which types(s) of assistive and/or instructional technology do you feel your child coud benefit from using? Circle all that apply.

1 Communication assistive and/or instructional technology
2 Mobility assistive and/or instructional technology
3 Educational assistive and/or instructional technology

12. Circle the number corresponding to the types of support services your child is currently using in the classroom. Circle all that apply.

1 Physical therapy/Physical therapist
2 Occupational therapy/Occupational therapist
3 Speech-Language Pathology services
4 Audiology services
5 Teacher of the hearing impaired
6 Resource Technology Specialist
7 Adaptive PE teacher
8 Curriculum development personnel
9 Other _____ (specify and include private services)
_____
_____

Please use the following rating scale to answer the statements in items 13 through 27. Circle one number per item.

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

13. I feel comfortable in my knowledge level related to using <u>communication</u> assistive technology with children with disabilities. 1 2 3 4 5

14. I feel comfortable in my knowledge level related to using <u>mobility</u> assistive technology with children with disabilities. 1 2 3 4 5

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

15.	I feel comfortable in my knowledge level related to using <u>educational</u> assistive technology with children with disabilities.	1 2 3 4 5
16.	I would like to know more about the use of <u>communication</u> assistive technology for children with disabilities.	1 2 3 4 5
17.	I would like to know more about the use of <u>mobility</u> assistive technology for children with disabilities.	1 2 3 4 5
18.	I would like to know more about the use of <u>educational</u> assistive technology for children with disabilities.	1 2 3 4 5
19.	I would feel competent in using <u>communication</u> assistive technology with my child at home.	1 2 3 4 5
20.	I would feel competent in using <u>mobility</u> assistive technology with my child at home.	1 2 3 4 5
21.	I would feel competent in using <u>educational</u> assistive technology with my child at home.	1 2 3 4 5
22.	My child's school does a good job using <u>communication</u> assistive technology with him/her.	1 2 3 4 5
23.	My child's school does a good job using <u>mobility</u> assistive technology with him/her.	1 2 3 4 5
24.	My child's school does a good job using <u>educational</u> assistive technology with him/her.	1 2 3 4 5

STRONGLY AGREE (1), AGREE (2), NEUTRAL (3), DISAGREE (4), STRONGLY DISAGREE (5)

25.	At home, we do a good job of using <u>communication</u> assistive technology with our child.	1	2	3	4	5
26.	At home, we do a good job of using <u>mobility</u> assistive technology with our child.	1	2	3	4	5
27.	At home, we do a good job of using <u>educational</u> assistive technology with our child.	1	2	3	4	5

Thank you for completing this questionnaire.

Please use the attached envelope to mail it to: Nancy Harlan, ASHA, 10801 Rockville Pike, Rockville, MD 20852.

If you have any questions about this questionnaire, call Nancy Harlan at 301-897-5700 or FAX at 301-571-0457.

This form is due to Nancy Harlan by _____
(date)

Appendix E
Field Test 2 Evaluation Form and
Pre- and Post-Questionnaire

EVALUATION OF MODULE AND VIDEOTAPE

We would like to ask you a few questions about the module you read. This evaluation will help us make revisions to future versions. Your honest feedback about this component of the training materials is valuable to us and we appreciate the time you spend completing this form.

Please complete this form and return it with the Post-Questionnaire and the project materials by 2-28-92.

1. Name: _____
(First) (Middle Initial) (Last)

2. Date you are completing this form: _____
Year/Month/Day

3. Which module are you reviewing on this form? (Circle one.)
1 Communication
2 Positioning, Access, and Mobility
3 Education

4a. When did you view the videotape? (Circle one.)

1 Before reading the module
2 After reading the module
3 At some point during the process of reading the module
4 Other (explain) _____

4b. In your opinion, when would it be best to view the videotape? (Circle one.)

1 Before reading the module
2 After reading the module
3 At some point during the process of reading the module
4 Does not make a difference when one views it

In this section, please relate your answer to the topic you read in the module. "Assistive technology" refers to the specific technology referred to in the module you are evaluating. Please use the rating scale to answer the statements in items 5 through 15. (Circle one number per item.)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5. The approach used in the module was clear and organized.	1	2	3	4	5
6. The module communicated the information well. well.	1	2	3	4	5
7. The module used examples to make points clearer.	1	2	3	4	5

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8.	The module usually held my attention.	1	2	3	4	5
9.	The module stimulated my interest in discovering additional information on my own.	1	2	3	4	5
10.	Reading a module is an effective way to learn new information and its applications.	1	2	3	4	5
11.	Reading this module increased my knowledge and understanding of assistive technology.	1	2	3	4	5
12.	As a result of reading this module, I am more aware of different types of assistive technology I could use with children with disabilities.	1	2	3	4	5
13.	As a result of reading this module, I will be more likely to explore the use of different types of assistive technology for children with disabilities.	1	2	3	4	5
14.	As a result of reading this module, I would like further information on using assistive technology in curriculum and intervention strategies.	1	2	3	4	5
15.	The module and the videotape complemented each other well.	1	2	3	4	5

In this section, please review the videotape by using the rating scale to answer the statements in items 16 through 25. For purposes of evaluating the videotape, assistive technology refers to all types covered in the videotape. (Circle one number per item.)

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
16.	The approach used in the videotape was clear and organized.	1	2	3	4	5
17.	The videotape communicated the information well.	1	2	3	4	5
18.	The videotape used examples to make points clearer.	1	2	3	4	5
19.	The videotape usually held my attention.	1	2	3	4	5
20.	The videotape stimulated my interest in discovering additional information on my own.	1	2	3	4	5

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
21. Viewing a videotape is an effective way to learn new information and its applications.	1	2	3	4	5
22. Viewing this videotape increased my knowledge and understanding of assistive technology.	1	2	3	4	5
23. As a result of viewing this videotape, I am more aware of different types of assistive technology I could use with children with disabilities.	1	2	3	4	5
24. As a result of viewing this videotape, I will be more likely to explore the use of different types of assistive technology for children with disabilities.	1	2	3	4	5
25. As a result of viewing this videotape, I would like further information on using assistive technology in curriculum and intervention strategies.	1	2	3	4	5

26. What were the major strengths and/or features that you liked about this module and videotape? Include in your comments your impression of the quality of the content.

_____

_____

_____

_____

_____

_____

27. What were the major weaknesses of this module and videotape?

_____

_____

_____

_____

_____

_____

EVALUATION OF LISTENING AND HEARING SUPPLEMENT

We would like to ask you a few questions about the Listening and Hearing Supplement. This evaluation will help us make revisions to future versions. Your honest feedback about this component of the training materials is valuable to us and we appreciate the time you spend completing this form.

Please complete this form and return it with the Post-Questionnaire, the Evaluation of Module and Videotape, and the project materials by 2-28-92.

1. Name: _____
   (First) (Middle Initial) (Last)

2. Date you are completing this form: _____
   Year/Month/Day

In this section, "assistive technology" refers to the specific technology referred to in the Supplement. Please use the rating scale to answer the statements in items 5 through 15. (Circle one number per item.) (The numbering below corresponds to that on the Module and Videotape Evaluation Form.)

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
5.	The approach used in the supplement was clear and organized.	1	2	3	4	5
6.	The supplement communicated the information well.	1	2	3	4	5
7.	The supplement used examples to make points clearer.	1	2	3	4	5
8.	The supplement usually held my attention.	1	2	3	4	5
9.	The supplement stimulated my interest in discovering additional information on my own.	1	2	3	4	5
10.	Reading a supplement is an effective way to learn new information and its applications.	1	2	3	4	5
11.	Reading this supplement increased my knowledge and understanding of assistive technology.	1	2	3	4	5
12.	As a result of reading this supplement, I am more aware of different types of assistive technology I could use with children with disabilities.	1	2	3	4	5

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13. As a result of reading this supplement, I will be more likely to explore the use of different types of assistive technology for children with disabilities.	1	2	3	4	5
14. As a result of reading this supplement, I would like further information on using assistive technology in curriculum and intervention strategies.	1	2	3	4	5
15. The supplement and the videotape complemented each other well.	1	2	3	4	5

26. What were the major strengths and/or features that you liked about this supplement? Include in your comments your impression of the quality of the content.

_____

_____

_____

_____

_____

_____

27. What were the major weaknesses of this supplement?

_____

_____

_____

_____

_____

_____

GENERAL INFORMATION PRE-QUESTIONNAIRE
(To be completed by teachers and related services personnel)

Please complete this form and return it in the enclosed envelope by 1/25/92.
We would like to ask you a few questions about yourself for statistical purposes.

PERSONAL DATA

1. Name: _____
(First) (Middle Initial) (Last)

2. Date you are completing this form: _____

EDUCATIONAL EXPERIENCE

3. For each degree you have completed, please indicate (in the table) the year, and the discipline in which you completed each degree. If you have more than one degree of the same type (e.g., two masters degrees), please indicate both by writing between the lines.

Degree	Year Completed	Discipline
BA/BS	19 ___ ___	_____
MA/MS	19 ___ ___	_____
PhD/EdD	19 ___ ___	_____

4. How many academic courses have you taken in the last 5 years that pertained specifically to the use of assistive technology* for persons with disabilities? (Circle one number.)

1	None	4	7 - 9
2	1 - 3	5	10 - 12
3	4 - 6	6	more than 12

5. How many continuing education courses (including inservice presentations) have you taken in the last 5 years that pertained specifically to the use of assistive technology for persons with disabilities? (Circle one number.)

1	None	4	7 - 9
2	1 - 3	5	10 - 12
3	4 - 6	6	more than 12

* Assistive technology - Equipment that helps a person with disabilities listen and hear, communicate, be positioned comfortably, access devices, move about, and do school work. Examples of such technologies are: (1) listening and hearing - classroom amplification systems, personal FM units, hearing aids; (2) communication - symbol displays, switch-activated tape recorders, electronic devices with speech output; (3) positioning - standing frames, adapted chairs, specialized seating systems for wheelchairs; (4) access - switches, keyboards; (5) mobility - prone scooters, manual wheelchairs, powered wheelchairs; (6) education - adapted computers, specialized software, crayon on a headstick, group symbol displays.

SITE DATA

6. How many years have you been employed in your current profession/discipline.

____ YEARS

7. Circle the number that best describes your current employment situation.

1	Special Education Teacher	6	Physical Therapist
2	Instructional Aide	7	Physical Education Teacher
3	Speech-Language Pathologist	8	Regular Education Teacher
4	Audiologist	9	Vision Specialist
5	Occupational Therapist	10	Other _____(specify)

8. How many schools do you currently serve?

_____ school(s)

9. Are you itinerant or school-based? (Circle one.)

1 Itinerant
2 School-based
3 Other (explain) _____

10. Circle all the numbers that apply to the type(s) of program(s) in which you are employed. For each program type, indicate the number of programs you serve and the total number of students for whom you are responsible through both direct and consultation services.

Program type	Number of programs	Total number of students
1 **home-based** [children are instructed in their own home]	_____	_____
2 **center-based** [all special classrooms are housed in the same school]	_____	_____
3 **community-based/self-contained** [a special classroom is housed in a regular school with no integration]	_____	_____
4 **mainstream classroom** [children with special needs are integrated into regular education classrooms part of the time]	_____	_____
5 **regular education** [typical elementary school with full integration]	_____	_____
GRAND TOTAL	_____	_____

11a. Of that "Grand Total" number of students (Question #10), the number of students that are currently using assistive technology is: _____

11b. The number of students currently *not* using assistive technology is (subtract number in Question #11a from Grand Total in Question #10): _____

11c. Of the number of students that are not currently using assistive technology (Question #11b), the number of students who could potentially benefit from using some type of assistive technology is: _____

Please use the rating scale to answer the statements in items 12 through 31. (Circle one number per item.)

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12.	I am comfortable with what I know about <u>communication</u> assistive technology for children with disabilities.	1	2	3	4	5
13.	I am comfortable with what I know about <u>positioning, access, and mobility</u> assistive technology for children with disabilities.	1	2	3	4	5
14.	I am comfortable with what I know about <u>educational</u> assistive technlogy for children with disabilities.	1	2	3	4	5
15.	I am comfortable with what I know about <u>listening and hearing</u> assistive technology for children with disabilities.	1	2	3	4	5
16.	I want to know more about <u>communication</u> assistive technology for children with disabilities.	1	2	3	4	5
17.	I want to know more about <u>positioning, access, and mobility</u> assistive technology for children with disabilities.	1	2	3	4	5
18.	I want to know more about <u>educational</u> assistive technology for children with disabilities.	1	2	3	4	5

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
19.	I want to know more about <u>listening and hearing</u> assistive technology for children with disabilities.	1	2	3	4	5
20.	I feel competent in participating in team decisions when selecting <u>communication</u> assistive technology for children with disabilities.	1	2	3	4	5
21.	I feel competent in participating in team decisions when selecting <u>positioning, access, and mobility</u> assistive technology for children with disabilities.	1	2	3	4	5
22.	I feel competent in participating in team decisions when selecting <u>educational</u> assistive technology for children with disabilities.	1	2	3	4	5
23.	I feel competent in participating in team decisions when selecting <u>listening and hearing</u> assistive technology for children with disabilities.	1	2	3	4	5
24.	I feel competent in using <u>communication</u> assistive technology with children with disabilities.	1	2	3	4	5
25.	I feel competent in using <u>positioning, access, and mobility</u> assistive technology with children with disabilities.	1	2	3	4	5
26.	I feel competent in using <u>educational</u> assistive technology with children with disabilities.	1	2	3	4	5
27.	I feel competent in using <u>listening and hearing</u> assistive technology with children with disabilities.	1	2	3	4	5
28.	The quality of current implementation of <u>communication</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5
29.	The quality of current implementation of <u>positioning, access, and mobility</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
30. The quality of current implementation of <u>educational</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5
31. The quality of current implementation of <u>listening and hearing</u> assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5

GENERAL INFORMATION POST-QUESTIONNAIRE
(To be completed by teachers and related services personnel)

Please complete this form and return it with the evaluation form and the project materials by 2/28/92. We would like to ask you a few questions about yourself for statistical purposes.

PERSONAL DATA

1. Name: _____
(First) (Middle Initial) (Last)

2. Date you are completing this form: _____
Year/Month/Day

3. Have you taken an academic class or continuing education course that discussed assistive technology since you completed the Pre-Questionnaire?

1 YES
2 NO

IF YES, PLEASE EXPLAIN

_____

_____

_____

_____

_____

_____

SITE DATA

4. Have there been significant changes in programs you serve and the number of students you serve since you became a participant in this study?

1 Yes
2 No IF NO, SKIP TO QUESTION #11C

(The numbering below corresponds to that on the Pre-Questionnaire.)

10. Circle all the numbers that apply to the type(s) of program(s) in which you are employed. For each program type, indicate the number of programs you serve and the total number of students for whom you are responsible through both direct and consultation services.

Program type	Number of programs	Total number of students
1 **home-based** [children are instructed in their own home]	_____	_____
2 **center-based** [all special classrooms are housed in the same school]	_____	_____
3 **community-based/ self-contained** [a special classroom is housed in a regular school with no integration]	_____	_____
4 **mainstream classroom** [children with special needs are integrated into regular education classrooms part of the time]	_____	_____
5 **regular education** [typical elementary school with full integration]	_____	_____
GRAND TOTAL	_____	_____

11a. Of that "Grand Total" number of students (Question #10), the number of students that are currently using assistive technology is: _____

11b. The number of students currently *not* using assistive technology is (subtract number in Question #11a from Grand Total in Question #10): _____

11c. Of the number of students that are not currently using assistive technology (Question #11b), the number of students who could potentially benefit from using some type of assistive technology is: _____

Please use the rating scale to answer the statements in items 12 through 31. (Circle one number per item.)

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
12.	I am comfortable with what I know about communication assistive technology for children with disabilities.	1	2	3	4	5
13.	I am comfortable with what I know about positioning, access, and mobility assistive technology for children with disabilities.	1	2	3	4	5
14.	I am comfortable with what I know about educational assistive technlogy for children with disabilities.	1	2	3	4	5
15.	I am comfortable with what I know about listening and hearing assistive technology for children with disabilities.	1	2	3	4	5
16.	I want to know more about communication assistive technology for children with disabilities.	1	2	3	4	5
17.	I want to know more about positioning, access, and mobility assistive technology for children with disabilities.	1	2	3	4	5
18.	I want to know more about educational assistive technology for children with disabilities.	1	2	3	4	5
19.	I want to know more about listening and hearing assistive technology for children with disabilities.	1	2	3	4	5
20.	I feel competent in participating in team decisions when selecting communication assistive technology for children with disabilities.	1	2	3	4	5
21.	I feel competent in participating in team decisions when selecting positioning, access, and mobility assistive technology for children with disabilities.	1	2	3	4	5
22.	I feel competent in participating in team decisions when selecting educational assistive technology for children with disabilities.	1	2	3	4	5
23.	I feel competent in participating in team decisions when selecting listening and hearing assistive technology for children with disabilities.	1	2	3	4	5
24.	I feel competent in using communication assistive technology with children with disabilities.	1	2	3	4	5

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
25.	I feel competent in using positioning, access, and mobility assistive technology with children with disabilities.	1	2	3	4	5
26.	I feel competent in using educational assistive technology with children with disabilities.	1	2	3	4	5
27.	I feel competent in using listening and hearing assistive technology with children with disabilities.	1	2	3	4	5
28.	The quality of current implementation of communication assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5
29.	The quality of current implementation of positioning, access, and mobility assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5
30.	The quality of current implementation of educational assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5
31.	The quality of current implementation of listening and hearing assistive technology for the children I serve is appropriate for meeting their curriculum goals.	1	2	3	4	5

GENERAL INFORMATION PRE-QUESTIONNAIRE
(To be completed by a family member)

Please complete this form and return it in the enclosed envelope by 1/25/92.
We would like to ask you a few questions about yourself for statistical purposes.

PERSONAL DATA

1.Name: _____
(First) (Middle Initial) (Last)

2. Date you are completing this form: _____

ASSISTIVE TECHNOLOGY DATA

3a. Is your child using some type of assistive technology* at school? (Circle one number.)

1 Yes
2 No IF NO OR UNSURE,
3 Unsure SKIP TO QUESTION #4A

IF YES TO QUESTION #3A
3b. Indicate which type(s) of assistive technology your child is using at school. (Circle all that apply.)

Assistive technology for:

1 Communication
2 Positioning
3 Access
4 Mobility
5 Education
6 Listening and Hearing

4a. Is your child using some type of assistive technology at home? (Circle one number.)

1 Yes
2 No IF NO OR UNSURE,
3 Unsure SKIP TO QUESTION #6

---

* Assistive technology - Equipment that helps a person with disabilities listen and hear, communicate, be positioned comfortably, access devices, move about, and do school work. Examples of such technologies are: (1) listening and hearing - classroom amplification systems, personal FM units, hearing aids; (2) communication - symbol displays, switch-activated tape recorders, electronic devices with speech output; (3) positioning - standing frames, adapted chairs, specialized seating systems for wheelchairs; (4) access - switches, keyboards; (5) mobility - prone scooters, manual wheelchairs, powered wheelchairs; (6) education - adapted computers, specialized software, crayon on a headstick, group symbol displays.

IF YES TO QUESTION #4A

4b. Indicate which type(s) of assistive technology your child is using at home. (Circle all that apply.)

Assistive technology for:

1 Communication
2 Positioning
3 Access
4 Mobility
5 Education
6 Listening and Hearing

Please use the rating scale to answer the statements in items 6 through 22. (Circle one number per item.)
(The numbering below corresponds to that on the Post-Questionnaire.)

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6.	My child could benefit from additional assistive technology.	1	2	3	4	5
7.	I am comfortable with what I know about communication assistive technology for children with disabilities.	1	2	3	4	5
8.	I am comfortable with what I know about positioning, access, and mobility assistive technology for children with disabilities.	1	2	3	4	5
9.	I am comfortable with what I know about educational assistive technology for children with disabilities.	1	2	3	4	5
10.	I am comfortable with what I know about listening and hearing assistive technology for children with disabilities.	1	2	3	4	5
11.	I want to know more about communication assistive technology for children with disabilities.	1	2	3	4	5
12.	I want to know more about positioning, access, and mobility assistive technology for children with disabilities.	1	2	3	4	5

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
13. I want to know more about educational assistive technology for children with disabilities.	1	2	3	4	5
14. I want to know more about listening and hearing assistive technology for children with disabilities.	1	2	3	4	5
15. I feel comfortable working with a team regarding communication assistive technology for my child.	1	2	3	4	5
16. I feel comfortable working with a team regarding positioning, access, and mobility assistive technology for my child.	1	2	3	4	5
17. I feel comfortable working with a team regarding educational assistive technology for my child.	1	2	3	4	5
18. I feel comfortable working with a team regarding listening and hearing assistive technology for my child.	1	2	3	4	5
19. At home, we do a good job of using communication assistive technology with our child.	1	2	3	4	5
20. At home, we do a good job of using positioning, access, and mobility assistive technology with our child.	1	2	3	4	5
21. At home, we do a good job of using educational assistive technology with our child.	1	2	3	4	5
22. At home, we do a good job of using listening and hearing assistive technology with our child.	1	2	3	4	5

GENERAL INFORMATION POST-QUESTIONNAIRE
(To be completed by a family member)

Please complete this form and return it with the evaluation form and the project materials by 2/28/92. We would like to ask you a few questions about yourself for statistical purposes.

PERSONAL DATA

1. Name: _____
(First) (Middle Initial) (Last)

2. Date you are completing this form: _____
Year/Month/Day

3. Have you taken an academic class or continuing education course that discussed assistive technology since you completed the Pre- Questionnaire?

1 YES
2 NO

IF YES, PLEASE EXPLAIN

_____

_____

_____

_____

_____

_____

ASSISTIVE TECHNOLOGY DATA

(IF YOUR CHILD'S USE OF ASSISTIVE TECHNOLOGY HAS CHANGED SINCE BECOMING A PARTICIPANT IN THIS STUDY, PLEASE ANSWER QUESTIONS #4A THROUGH #5B. IF NOT, PLEASE SKIP TO QUESTION #6.)

4a. Is your child using some type of assistive technology at school? (Circle one number.)

1 Yes
2 No IF NO OR UNSURE,
3 Unsure SKIP TO QUESTION #5A

IF YES TO QUESTION #4A

4b. Indicate which type(s) of assistive technology your child is using at school. (Circle all that apply.)

Assistive technology for:

1 Communication
2 Positioning
3 Access
4 Mobility
5 Education
6 Listening and Hearing

5a. Is your child using some type of assistive technology at home? (Circle one number.)

1 Yes
2 No — IF NO OR UNSURE
3 Unsure — SKIP TO QUESTION #6

IF YES TO QUESTION #5A

5b. Indicate which type(s) of assistive technology your child is using at home. (Circle all that apply.)

Assistive technology for:

1 Communication
2 Positioning
3 Access
4 Mobility
5 Education
6 Listening and Hearing

Please use the rating scale to answer the statements in items 6 through 22. (Circle one number per item.)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6. My child could benefit from additional assistive technology.	1	2	3	4	5
7. I am comfortable with what I know about communication assistive technology for children with disabilities.	1	2	3	4	5
8. I am comfortable with what I know about positioning, access, and mobility assistive technology for children with disabilities.	1	2	3	4	5

		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9.	I am comfortable with what I know about <u>educational</u> assistive technology for children with disabilities.	1	2	3	4	5
10.	I am comfortable with what I know about <u>listening and hearing</u> assistive technology for children with disabilities.	1	2	3	4	5
11.	I want to know more about <u>communication</u> assistive technology for children with disabilities.	1	2	3	4	5
12.	I want to know more about <u>positioning, access and mobility</u> assistive technology for children with disabilities.	1	2	3	4	5
13.	I want to know more about <u>educational</u> assistive technology for children with disabilities.	1	2	3	4	5
14.	I want to know more about <u>listening and hearing</u> assistive technology for children with disabilities.	1	2	3	4	5
15.	I feel comfortable working with a team regarding <u>communication</u> assistive technology for my child.	1	2	3	4	5
16.	I feel comfortable working with a team regarding <u>positioning, access, and mobility</u> assistive technology for my child.	1	2	3	4	5
17.	I feel comfortable working with a team regarding <u>educational</u> assistive technology for my child.	1	2	3	4	5
18.	I feel comfortable working with a team regarding <u>listening and hearing</u> assistive technology for my child.	1	2	3	4	5
19.	At home, we do a good job of using <u>communication</u> assistive technology with our child.	1	2	3	4	5
20.	At home, we do a good job of using <u>positioning, access, and mobility</u> assistive technology with our child.	1	2	3	4	5
21.	At home, we do a good job of using <u>educational</u> assistive technology with our child.	1	2	3	4	5
22.	At home, we do a good job of using <u>listening and hearing</u> assistive technology with our child.	1	2	3	4	5

Appendix F

Project News Release

American Speech-Language-Hearing Association
10801 Rockville Pike • Rockville, Maryland 20852 • (301) 897-5700 • FAX (301) 571-0457

ASHA NEWS NEWS

FOR IMMEDIATE RELEASE

CONTACT: Marjorie Signer
301-897-5700

ASHA PROJECT TO EXPAND USE OF TECHNOLOGY IN CLASSROOM

Rockville, Md., Dec. 8, 1989--The American Speech-Language-Hearing Association (ASHA) has launched a three-year grant project to train teachers, special educators and caregivers in the use of assistive technologies for children with severe handicaps.

Funded by the U.S. Department of Education, the Technology in the Classroom project will develop three self-instructional videotape and print modules to foster use of technology in educational programs for children with severe handicaps. The modules will offer strategies for using assistive technologies in the educational programs of children ages 2 to 7, specifically in the areas of curriculum, communication and mobility.

Severe handicaps affect more than 20,000 school-age children in the United States. However, according to U.S. Department of Education estimates, more than 88,000 school-age children with disabilities of varying severity could potentially benefit from assistive technologies such as computerized augmentative communication aids and powered mobility and environmental controls. Such technology can make it possible for some children

-more-

with handicaps to attend class with their nonhandicapped peers and participate in nonacademic and extracurricular activities.

Although a variety of assistive devices exists for children with severe handicaps, the technology is underutilized, partially because professionals providing education to this population may not be trained to use it and insufficient information exists about selection and use of the technology.

Organizations participating with ASHA in the Technology in the Classroom project are the Council for Exceptional Children, United Cerebral Palsy Associations of America, the United States Society for Augmentative and Alternative Communication and The Association for Persons with Severe Handicaps.

James P. Gelatt, Ph.D., director of the ASHA Sponsored Programs Division, is administrator of the Technology in the Classroom project. Mary Anselmo is project director and Deborah Bruskin is project manager.

ASHA is the national professional, scientific and accrediting organization for 59,000 speech-language pathologists and audiologists, who treat persons with communication disorders. More than 24 million Americans have a speech, language or hearing disorder.

-30-

Appendix G
Project Updates

Technology in the Classroom

Increasing the use of assistive device technology in the classroom would provide the opportunity for close to 4.5 million children nationwide to reach their educational potential. To facilitate this opportunity, ASHA has launched a three-year project to train teachers, special education professionals, and caregivers to effectively use assistive technology in the educational programs of children with severe handicaps. With funding from the U.S. Department of Education, *Technology in the Classroom* will develop, field test, and disseminate three self-instructional modules that will assist in the incorporation of technology in learning environments.

Project Objectives

- ❑ Development of three self-instructional modules that will offer, through videotape examples with supporting print material, strategies for applying assistive technology to the educational programs of children between the ages of two and seven with severe handicaps. Emphasis will be placed on the implementation of educational programs within the least restrictive environment using an interdisciplinary approach.

  - **Module 1: Educational Curriculum.** This module will stress the importance of providing greater accessibility to the educational curriculum using assistive technology and instructional tools.
  - **Module 2: Communication.** This module will cover the use of augmentative aids, techniques, and strategies with children who are severely speech impaired and others who may benefit from communication training.
  - **Module 3: Mobility.** The importance of independent mobility to the personal and educational development of the child will be addressed in this module.

- ❑ Local (Montgomery County, Maryland, Public Schools) and national (California, Florida, Minnesota, Rhode Island) field testing and evaluation.

- ❑ Dissemination and distribution of the educational modules (at cost) through national professional associations, parent and consumer advocacy networks, State Education Agencies, among other organizations.

For more information on *Technology in the Classroom*, please complete this coupon and send it to Deborah Bruskin, Project Manager, Technology in the Classroom, ASHA, 10801 Rockville Pike, Rockville, MD 20852.

Name _____

Address _____

Phone _____

Technology in the Classroom

Update #1 Spring 1990

An update on the progress of the *Technology in the Classroom* Project at the American Speech-Language-Hearing Association

Technology Project Begins at ASHA

"Technology in the Classroom," a project funded in part by the U.S. Department of Education, began at ASHA on October 1, 1989. Much interest has been expressed in the project and, in an effort to keep you informed of our progress, periodic updates will be prepared by the project staff.

This three-year project is designed to assist health care professionals (including teachers and special educators) and caregivers in their efforts to integrate assistive technologies into the educational programs of children, ages 2 to 7, with severe disabilities. During the course of the project, three self-instructional modules that address communication, educational curriculum, and mobility (each including a text and videotape) will be developed, field tested, and disseminated. The modules will assist teachers and caregivers in using assistive devices across learning environments, including home, school, and community.

Three Self-Instructional Modules Being Developed

Preamble - Each module will contain a preamble explaining the rationale and philosophy for the modules and discussing roles of service providers, including speech-language pathologists, audiologists, occupational therapists, and physical therapists. The preamble will provide an overview of aspects common to all areas, such as seating and positioning, access to educational activities and materials, assessment, goal setting, and measuring effectiveness of programming.

Educational Curriculum - Providing access to the educational curriculum in least restrictive environments using assistive technologies as instructional tools will be explained in this module. Basic computer access for individuals with severe disabilities will be demonstrated. Emphasis will be placed on strategies that allow natural integration of technology into typical educational environments and that allow some children to stay within the "regular" education curriculum.

Communication - This module will focus on techniques and strategies for the use of augmentative communication systems with children who are severely speech impaired and children who may benefit from communication training for other reasons. Instructional materials will stress the use of electronic and nonelectronic devices across educational environments. Strategies will be provided for effectively involving parents, siblings, peers, and teachers as facilitators of communication.

Mobility - The importance of independent mobility to the personal and educational development of the child will be reviewed. Specific training suggestions for developing skills in this area will be provided, and special attention will be placed on developing the professional's understanding of the use of modular component technical aids in meeting the needs of severely handicapped children.

Meet the Authors, ...

Sarah W. Blackstone - Communication. Sarah is currently in private practice and serving as editor of *Augmentative Communication News*. She provides consultation to school districts that are attempting to implement the use of assistive technologies within educational environments. Sarah serves on the Board of Directors of both the United States Society for Augmentative and Alternative Communication (USAAC) and the International Society for Augmentative and Alternative Communication (ISAAC). Sarah served as project director at ASHA on "Leadership Training in Augmentative Communication" and "Implementation Strategies for Improving the Use of Communication Aids in Schools Serving Handicapped Children." She has also been involved in training workshops and has made numerous presentations to professional groups across the country on service delivery in augmentative communication.

E. Lucinda Cassatt-James - Educational Curriculum. Cindy also worked on the augmentative communication projects at ASHA, and is currently Director of the Department of Assistive Technology at the John F. Kennedy Institute in Baltimore, Maryland. She also teaches courses in augmentative communication at Johns Hopkins University. Cindy has over 10 years' clinical experience and has lectured and published widely on the integration of technology into educational settings.

Elaine Trefler - Mobility. Elaine is an Assistant Professor in the Department of Orthopaedic Surgery, University of Tennessee, Memphis, and a doctoral candidate at the University of Tennessee. She is well-known for her expertise in rehabilitation technology, has presented lectures, papers, and workshops on the treatment and delivery of services to children with handicaps, and has developed videotapes related to rehabilitation. She is a member of the American Occupational Therapy Association and is on the Board of Directors of RESNA, an interdisciplinary association for the advancement of rehabilitation and assistive technologies.

Carol Flexer - Carol, who will be providing input on hearing impairment to all three modules, received a Ph.D. in Audiology from Kent State University in 1982. She has taught at The University of Akron for eight years and is currently an Associate Professor. Special areas of expertise include pediatric and educational audiology. She has lectured nationally, authored numerous articles, and served as consultant to many school districts regarding educational management of children with hearing loss. Carol is immediate past president of the Educational Audiology Association, and recently received the 1989 Nitchie Award in Communication from the New York League for the Hard of Hearing for promoting the mainstreaming of hearing-impaired children of all ages.

. . . . . and Project Staff

Mary Anzelmo - Mary, who serves as project director, has extensive experience in the delivery of consultative and direct speech and language services in Prince Georges County, Maryland, Public Schools in both regular and special education. Her major focus over the past eight years has been on integrating augmentative communication and assistive technology into the educational programs of young children with severe disabilities. As project director, Mary works with the module authors in developing the instructional materials, designing and developing the preamble, and coordinating the local and national field tests.

Jim Gelatt - Serving as project administrator, Jim has overall responsibility for project activities. He has served in a similar capacity on federally funded projects at ASHA since 1981, including six projects related to software development, inservice training in technology, administrative uses of technology

in special education, and augmentative communication.

Deborah Bruskin - Working at ASHA since 1985, Deborah has served as project manager on "Leadership Training in Augmentative Communication," "Implementation Strategies for Improving the Use of Communication Aids in Schools Serving Handicapped Children," and "Statewide Training for Nursing Professionals in Community Health Centers." She also has over 10 years' experience as a professional editor. As project manager, Deborah has primary responsibility for editing project materials; handling the paper flow to and from authors, advisory groups, and other interested parties; and keeping track of all financial activities of the project.

Project Activities to Date

Initial project activities centered around soliciting information about module content from the project's External Advisory Group, Peer Reviewers, and other frontline professionals who were recommended for participation on the project. In addition to professionals, parents and consumers, these groups are comprised of individuals from United Cerebral Palsy Associations, the Center for Special Education Technology, and the Maryland Rehabilitation Center.

Information received from these groups was compiled and sent to the authors, who met at the ASHA National Office in Rockville, Maryland, on January 10 and 11, 1990. At this meeting, outlines were developed for the written and videotaped portions of the preamble and for the three modules. The project staff is now compiling feedback from the advisory groups about the outlines to share with the authors. Module authors and project staff are currently developing the texts and videotapes.

Projected Timeline

Develop 3 instructional modules (first drafts): 11/90
Field test in Montgomery County, MD: 11/90-5/91
Revise materials: 8/91
Field tests in Rhode Island, Minnesota, California, and Florida: 11/91-5/92
Revise materials: 8/92
Finalize packages prior to marketing: 10/92

Your Help Is Invited

We are currently in the process of collecting videotaped examples of professionals and caregivers demonstrating exemplary practices in the use of assistive technologies in educational settings. If you have or are aware of any videotapes that show children (ages 2 to 7) with severe disabilities using a range of assistive technologies in a variety of settings (home, school, and community), please let us know. We would like to review them for possible inclusion in the videotapes that will accompany the modules. In addition, if you know of articles or books that would help us as we develop the modules, please forward references or copies to us. We appreciate your participation.

FYI

We get many requests for information on funding assistive devices. An annotated bibliography on funding for technology is available from the REquest Program and may be helpful to those who want to explore the area further. To receive the bibliography, contact:

Jan Galvin
Rehabilitation Engineering Center
National Rehabilitation Hospital
102 Irving Street, NW
Washington, DC 20010-2949
(202) 877-1932
TDD (202) 726-3996
FAX (202) 723-0628

Questions???

We welcome all questions or comments that you may have regarding the project. Please feel free to contact Mary or Deborah at (301) 897-5700. If you would like to have your name added to our mailing list, please contact:

Mary Anzelmo, M.A., CCC-SLP
American Speech-Language-Hearing Association
10801 Rockville Pike
Rockville, MD 20852
301-897-5700

Technology in the Classroom:
Applications and Strategies for the Education of Children with Severe Handicaps

Funded in part by the U.S. Department of Education
PR/Award Number H086U90018
Patricia Hawkins, Project Officer

Project Staff:

James P. Gelatt, Project Administrator
Mary E. Anzelmo, Project Director
Deborah M. Bruskin, Project Manager

American Speech-Language-Hearing Association
10801 Rockville Pike
Rockville, MD 20814

Technology in the Classroom

Update #2 Fall 1991

An update on the progress of the *Technology in the Classroom* Project at the American Speech-Language-Hearing Association

As we approach the end of Year 2 of the "Technology in the Classroom" project, we would like to bring you up to date on the many accomplishments that have occurred in recent months and on the tremendous progress that has been made toward the development of the project products.

Preparation of the three self-instructional modules progressed smoothly as project staff worked with Sarah Blackstone, Cindy Cassatt-James, and Elaine Trefler, as well as with the internal and external advisory boards. Carol Flexer also devoted tremendous time and effort in the preparation of the Listening and Hearing Supplement. The module authors, along with the project staff, gathered at the ASHA National Office in April to meet Dan Rainey, our audiovisual consultant, and to begin work on the project videotape.

Field Test I

The three modules (Communication, Education, and Positioning, Access, and Mobility) were field tested between April and June of this year. The field test was conducted at eight schools in Montgomery County, Maryland. Participants were asked to complete a pre-questionnaire and, after reading one of the three modules, to complete a post-questionnaire as well as an evaluation form. The questionnaires, which contained the same questions, were designed to collect demographic information as well as to gauge how comfortable the respondents were with their knowledge of assistive technology, their desire to know more about assistive technology, how competent they felt in using assistive technology, and their impression of the quality of implementation of assistive technology in their own environments. Results of the field test were analyzed by Victor Rezmovic of Micro Automation Consultants. Some of the more pertinent demographic information follows:

Teachers and related service providers:

- 22 participants
- 6 special educators
- 5 speech-language pathologists
- 5 occupational therapists
- 5 physical therapists
- 1 special education coordinator

The majority of these participants each served one school, and the majority of these schools were center-based programs.

Careproviders

- 8 participants
- 75% of respondents reported their children used assistive technology in school
- 50% reported their children used assistive technology at home, most

often for communication.
- Of the 50% whose children were not using assistive technology at home, all felt their children could benefit from its use, particularly for communication.

Reviewers of the modules:
(one teacher reviewed all three modules)

- 10 reviewed Communication
- 13 reviewed Positioning, Access, and Mobility
- 9 reviewed Education

Results of the field test:

1. Upon comparison of the pre- and post-questionnaires, there was a significant increase in reported comfort levels regarding knowledge about using assistive technology among all 30 respondents (including teachers, related service personnel and careproviders).

2. A comparison of the responses of careproviders and teachers and related service personnel (on both the pre- and post-questionnaires) revealed that the careproviders felt significantly less comfortable with their knowledge of using assistive technology than did the professionals. Also, the careproviders had less desire to learn more about assistive technology than did the teachers and related service personnel.

3. On the evaluation forms reviewers requested the inclusion of more examples as well as an extensive discussion of children with greater cognitive challenges.

Following the field test, the modules were returned to the authors for revision. Following author revision and subsequent editing by the project staff and internal advisory group, the modules will be prepared for Field Test II.

Field Test II

A national field test is scheduled to begin in January 1992. Initial preparations for this field test included a meeting of four site coordinators at the ASHA National Office on September 27 and 28. The site coordinators include Judy Montgomery (California), Richard Lytton (Rhode Island), Gail Van Tatenhove (Florida), and Peggy Locke (Minnesota). Each site coordinator will select six educational sites within their respective states for participation in the field test. Procedures utilized will be the same as those utilized for Field Test I, including the administration of pre- and post-questionnaires and evaluation forms to all participants.

While the national field test is in progress, project staff will contact Field Test I participants to determine if knowledge gained from reading the modules had, in the long term, affected their use of assistive technology.

Videotape & Supplement

Preparation of a 15-minute videotape is well underway. The script has been through two revisions, and most of the footage has been selected. We anticipate that the videotape will be included in Field Test II.

The Listening and Hearing Supplement was peer reviewed by seven audiologists in May and is currently being revised.

Spreading the Word . . . . .

Project staff and authors have made several presentations regarding Technology in the Classroom, and several are planned in the next few months. Elaine Trefler, author of Positioning, Access, and Mobility,

gave a presentation at the annual meeting of the American Occupational Therapy Association in June. Nancy Harlan will be presenting at a meeting of Closing the Gap in October as well as conducting a Poster Session at the ASHA National Convention in Atlanta this November. In addition, Nancy will be presenting at a 1992 conference entitled, "New Horizons in Technology" sponsored by the Technology and Media Division of the Council for Exceptional Children.

Interest in the project has been growing rapidly -- many of you on our mailing list have expressed interest in receiving the project materials as soon as they are available. We are in the process of preparing an informational brochure about the project, which will give you more information about the availability of these materials.

If you have more specific questions about the project, please feel free to contact either Nancy Harlan or Deborah Bruskin at 301-897-5700. And, if you know of others who would like their names added to our mailing list, please have them call or contact us at: American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852

* *

Technology in the Classroom:
Applications and Strategies for the Education of Children with Severe Disabilities
Funded in part by the U.S. Department of Education
PR/Award Number H086U90018
Patricia Hawkins, Project Officer

Project Staff: Nancy T. Harlan, Project Director
Deborah M. Bruskin, Project Manager
Stan Dublinske, Project Administrator

American Speech-Language-Hearing Association
10801 Rockville Pike
Rockville, MD 20852
301-897-5700

Appendix H
Project Brochure

Technology in the Classroom

Applications and Strategies for the Education of Children with Severe Disabilities

Technologies for

- **Communication**
- **Education**
- **Positioning, Access, and Mobility**
- **Listening and Hearing**

■ ■ ■

Self-instructional written materials, as well as a videotape, to assist novices in the application of assistive technologies

Communication

Author:
Sarah W. Blackstone, Ph.D.

This module focuses on techniques and strategies for using augmentative and alternative communication systems with children who have severe speech and language impairments, providing numerous examples of how these strategies can be used with and without technology. Instructional materials stress the use of electronic and nonelectronic devices across learning environments and emphasize involvement of parents, siblings, peers, and teachers as facilitators of communication.

Positioning, Access, and Mobility

Author:
Elaine Trefler, M.Ed.

This module reviews the importance of independent mobility for the personal and educational development of a child. Specific training suggestions, as well as a variety of strategies for choosing technologies, are presented for professionals and families to use in helping children develop skills related to positioning, access, and mobility. The suggestions and strategies are enhanced through the use of visual representations and case studies.

Listening and Hearing

A Supplement

Author: Carol Flexer, Ph.D.

Listening and hearing difficulties among young children with severe disabilities are addressed. Hearing technologies, including hearing aids, personal FM, soundfield FM, and mildgain hardwired systems are described, along with practical suggestions for their use in a child's learning environments. Strategies to encourage listening also are included.

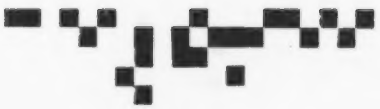
Education

Author:
E. Lucinda Cassatt-James, Ph.D.

Providing access to the educational curriculum via assistive technologies is the focus of this module. Strategies that are suitable for a broad range of capabilities and that allow natural integration of technology into all learning environments are emphasized. Discussions of technology include basic computer hardware and adaptations, as well as software, for young children with severe disabilities.

Videotape

The technologies and strategies described in the written materials are highlighted in a 15-minute videotape that illustrates the successful integration of technology into children's learning environments (e.g., home, school, and community).



To Order

To receive additional information about costs and projected date of availability, please call ASHA's Fulfillment Operations, 301-897-5700, ext. 218, 8:30 a.m. to 5:00 p.m., EST. You can be placed on a mailing list to be notified when the products are in stock.

These products were developed through a grant that was supported, in part, by award number H086U90018 from the Office of Special Education Programs, U.S. Department of Education, Washington, D.C., Patricia Hawkins, Project Officer.

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

Project Staff

Nancy T. Harlan, Project Director, ASHA
Deborah M. Bruskin, Project Editor, ASHA
Stan Dublinske, Project Administrator, ASHA

American Speech-Language-Hearing Association
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Appendix I
Follow-up of Field Test 1 Participants

AMERICAN
SPEECH-LANGUAGE-
HEARING
ASSOCIATION

LET&TRY AGAIN! TO HELP. I HAVE WRITTEN THE TITLE OF THE MODULE YOU READ. THANK YOU! THANK YOU!

"Technology in the Classroom: Applications and Strategies for the Education of Children with Severe Disabilities"

In the spring of 1991, you participated in a field test that ASHA conducted as part of the "Technology in the Classroom" project. We are interested now in gathering some longer term data regarding the effectiveness of the materials that you read. By completing this 5-minute questionnaire, you will help us determine whether the materials have been useful to you and what (if any) kinds of changes have taken place in your beliefs and practices. The materials will go through one more revision before their final production, so your input here will be valuable to us.

DON'T STOP NOW; TAKE THE FEW MINUTES NECESSARY TO COMPLETE THIS FORM AND SEND IT BACK TO US BY RETURN MAIL, USING THE ENCLOSED, STAMPED ENVELOPE!

Name:_____ Date:_____

1. During the Field Test, you read the _____ Module. Which of the following components of this module have been useful to you or have influenced your beliefs or practices in your work setting/your home? (check all that apply)

_____Philosophy and Rationale

_____Assessment Procedures

_____Intervention Strategies

_____Resource Lists/Appendices

_____Other_____

_____

2. As a result of reading this module, what (if anything) did you want to change and what did you actually change? (check all that apply)

Wanted to Change	Did Change		
_____	_____	a.	My level of awareness about assistive technology
_____	_____	b.	My attitudes about using assistive technology with children.

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_____ _____ c. My specific uses of assistive technology with children.

_____ _____ d. My attitudes about participating in team decisions in selecting assistive technology.

_____ _____ e. My actual participation in team decisions in selecting assistive technology.

_____ _____ f. My efforts to seek additional information and resources about assistive technology for children.

_____ _____ g. My efforts to provide information to others about using assistive technology with children.

3. What were the obstacles or problems in trying ideas or techniques from the module? (check all that apply)

_____ a. Lack of support from others.

_____ b. Did not have the occasion/opportunity to try.

_____ c. Was not confident enough with new knowledge and skills to try.

_____ d. Issues related to the children themselves.

_____ e. Time limitations.

_____ f. Other_____

_____

4. In thinking about what you learned from reading this module, were there topics about which you needed more information?_____

_____

_____

_____

THANK YOU AGAIN FOR YOUR TIME AND EFFORT!!!!!